

The Commonwealth of Massachusetts

ANNUAL REPORT

OF THE

Department of Public Works

For the Year Ending November 30, 1935



The Commonwealth of Massachusetts

SIXTEENTH ANNUAL REPORT

OF THE

DEPARTMENT OF PUBLIC WORKS

YEAR ENDING NOVEMBER 30, 1935

*To the Honorable Senate and House of Representatives of the
Commonwealth of Massachusetts:*

In accordance with the provisions of law, I have the honor, as Commissioner of Public Works, to submit the sixteenth annual report of the Department of Public Works for the year ending November 30, 1935.

The organization of the Department, as defined in Chapter 16, General Laws, as amended by chapter 297, Acts of 1927, was as follows:

Commissioner of Public Works, FRANK E. LYMAN¹ and WILLIAM F. CALLAHAN.²

Associate Commissioner, RICHARD K. HALE.

Associate Commissioner, WILLIAM F. CALLAHAN² and FRANK E. LYMAN.¹

Office Building. The new office building for this Department is intended to accommodate the various offices of the Department which are located in Boston. Any space not immediately needed for its activities is to be assigned for other State departments at reasonable rental figures. This building was authorized by Chapter 122, Acts of 1931, with additional appropriations for completion, namely, —Chapter 21, Acts of 1932 and Item 578b, Chapter 371, Acts of 1933.

The mileage of new State highways laid out during the year amounted to 25.16 miles, but there were abandoned or discontinued 2.04 miles of State highways, so that the net mileage of State highways amounted to 1,875.58 miles at the end of the year.

The Department has constructed, reconstructed and widened 63.63 miles of State highways and built 163.81 miles of roads in co-operation with cities, towns and counties under the provisions of chapter 90, General Laws.

Under the provisions of section 26, chapter 81, General Laws, the Department has had charge of the repair and maintenance of 8,858 miles of public ways, exclusive of State highways in 175 towns.

New Projects, State Highways. Reconstruction of about seven miles of State highway in Dracut, Lowell and Methuen.

Construction of steel bridge over the Boston-Revere Beach and Lynn Railroad, in Revere.

Construction of concrete bridge over Mother Brook, Dedham, on the Providence Turnpike Extension, a mile of highway on new location for the Providence Turnpike in Dedham, and three quarters of a mile of State highway on the same route in Boston.

Reconstruction of seven miles of State highway in Southwick.

Reconstruction of about five miles of State highway in Montague, partly on new location.

Authorized by Special Acts. A highway grade separation of considerable importance was begun at the intersection of Huntington Avenue and the Fenway, the latter being carried over Huntington Avenue.

Bond Issue. The Legislature by an Act, Chapter 464, of the current year, provided for a Public Works Program for the purpose of alleviating existing conditions resulting from unemployment. This Act authorized several classes of public works projects to be carried out by the Department of Public Works or under its direct supervision, at a total cost amounting to \$13,000,000. The State Treasurer is authorized by the Act, generally referred to as the Bond Issue Legislation, to borrow on the credit of the Commonwealth such sums as may be necessary, but not in excess of the amount above stated. A copy of this Act is submitted below. The amount set aside for highway projects is \$12,000,000, and the balance,

¹ Term as Commissioner of Public Works terminated and appointed Associate Commissioner on Dec. 20, 1934.

² Term as Associate Commissioner terminated and appointed Commissioner of Public Works on Dec. 29, 1934.

\$1,000,000, is for waterways projects. Federal co-operation is authorized under this Act.

The selection of projects to be carried out has been made with a view to undertaking the most urgent improvements. The allotment of \$4,000,000 for construction of sidewalks along State highways and any amounts used as the Commonwealth's share for the abolition of grade crossings, will be justified by the greater safety to human life as provided by such projects.

The grant of \$2,300,000 distributed for projects to be carried out directly by the cities and towns of the Commonwealth, has afforded the means of the employment of local labor.

This Act authorized the Department to enter into agreements with the Federal Government for the execution of projects to be carried out with both State funds and Federal funds.

The Federal Emergency Relief Appropriation Act of 1935 (Public Resolution No. 11, 74th Congress) provided for the construction of highways, roads and streets in accordance with the provisions of the Federal Highway Act. Under this legislation the Secretary of Agriculture promulgated certain rules and regulations approved by the President on July 12, 1935, for carrying out the provisions of this Act.

The Department of Public Works entered into an agreement with the Secretary of Agriculture on August 27, 1935, for carrying out highway projects with Federal funds, designated as "Works Program Highway Funds," amounting to \$3,262,885. Also, an amount of \$4,210,833 was provided for the elimination of grade crossings, designated as Works Program Grade Crossing elimination projects; both of these types of projects to be carried out with the co-operation of the Bureau of Public Roads.

The agreements provided that in the execution of work financed by such Federal funds, certain classes of labor shall be obtained through the National Reemployment Service, preference being given to the employment of labor obtained from relief rolls.

The Federal Aid highway construction was authorized by the Hayden-Cartwright Act of 1934, and the allotment to Massachusetts for 1935 was \$1,741,877, and the State appropriated an equal amount to match this Federal grant.

The engineering and clerical staff of the Department was as follows:

Chief Engineer, ARTHUR W. DEAN.¹

Acting Chief Engineer, GEORGE H. DELANO.²

Highway Engineer, (Projects), FRANKLIN C. PILLSBURY.

Highway Engineer, (Construction), RAYMOND W. COBURN.

Highway Engineer, (Maintenance), GEORGE H. DELANO.

Bridge Engineer, GEORGE E. HARKNESS.

District Highway Engineers:—

District No. 1, GEORGE A. CURTIS—Berkshire County and the towns of Worthington, Middlefield and Huntington in Hampshire County, and the towns of Chester, Montgomery, Russell, Blandford and Tolland in Hampden County.

District No. 2, H. D. PHILLIPS—Franklin, Hampshire and Hampden Counties, with the following exceptions: three towns in Hampshire County included in District No. 1 and ten towns in Hampden County included in Districts Nos. 1 and 3.

District No. 3, JOHN A. JOHNSTON—Worcester County and the towns of Brimfield, Holland, Monson, Palmer and Wales in Hampden County.

District No. 4, F. D. SABIN—Middlesex County.

District No. 5, JAMES E. LAWRENCE—Essex and Suffolk Counties.

District No. 6, H. O. PARKER, Norfolk and Bristol Counties.

District No. 7, H. C. HOLDEN—Plymouth, Barnstable, Dukes and Nantucket Counties.

District Waterways Engineer, for Boston Harbor—JOHN N. FERGUSON.

District Waterways Engineer, for harbors and waterways outside Boston Harbor—FRANCIS L. SELLEW.

¹ Resigned Oct. 4, 1935.

² Appointed Acting Chief Engineer Oct. 5, 1935.

Secretary, MARY A. RILEY.
Financial Secretary, FRED FAIR.

Registry of Motor Vehicles

Registrar, MORGAN T. RYAN¹ and FRANK A. GOODWIN.²
Deputy Registrar, ANTHONY A. BONZAGNI.
Assistant to the Registrar of Motor Vehicles, ALFRED W. DEVINE.
Chief Administrative Clerk, CHARLES R. GILLEY.
Chief Inspector of Motor Vehicles, ALBERT S. OLSSON.

A detailed report of the activities of the Department for the year is presented herewith.

WILLIAM F. CALLAHAN,
Commissioner of Public Works.

December 1, 1935.

SPECIAL REPORTS TO THE LEGISLATURE

The Department was authorized and directed by the Legislature to make certain investigations, and the reports thereon were made as follows:

State highway between the cities of Lowell and Boston, Report made Nov. 28, 1934, by the Department of Public Works, under Chapter 17, Resolves of 1934. (Sen. 90 of 1935.)

Advisability of widening and deepening Shirley Gut in Boston Harbor. Report made Nov. 28, 1934, by the Department of Public Works, under Chapter 19, Resolves of 1934. (H. 220 of 1935.)

A public highway on Plum Island, Report made Nov. 28, 1934, by the Department of Public Works under Chapter 21, Resolves of 1934. (Sen. 2 of 1935.)

The advisability of constructing certain traffic improvements in Boston, Cambridge and Everett. Report made Nov. 28, 1934, by the Department of Public Works, under Chapter 31, Resolves of 1934. (H. 221 of 1935.)

The improvement of the sanitary condition of Lake Quinsigamond and the watershed of said Lake. Joint report made Nov. 30, 1934, by the Department of Public Health and the Department of Public Works, as a Joint Board, under Chapter 32, Resolves of 1934. (Sen. 10 of 1935.)

Extending the existing State highway across Chelsea Creek between Boston and Chelsea. Report made Dec. 5, 1934, by the Department of Public Works, under Chapter 33, Resolves of 1934. (Sen. 165 of 1935.)

The advisability of licensing contractors and builders and relative to certain matters relating to contracts for and the employment of persons on public works. Report made Dec. 5, 1934, by special commission, established by Chapter 33, Resolves of 1934, and continued under authority of Chapter 34, Resolves of 1934. (H. 217 of 1935.)

Certain proposed traffic routes in the Metropolitan District. Report made Dec. 5, 1934, by the Department of Public Works, under Chapter 45, Resolves of 1934. (H. 223 of 1935.)

The protection of property along the waterfront in the Beachmont Section of the City of Revere. Joint report made Dec. 5, 1934, by the Department of Public Works and the Metropolitan District Commission, acting as a Joint Board, under Chapter 47, Resolves of 1934. (H. 299 of 1935.)

The desirability of establishing a free port in the Port of Boston and a study of the provisions of certain Federal legislation relative to foreign trade zones in ports of entry of the United States, and certain other related matters. Joint report made February, 1935, by the Boston Port Authority and the State Commissioner of Public Works, acting jointly, under Chapter 48, Resolves of 1934. (H. 1950 of 1935.)

The sewage problem in the South Essex Sewerage District. Joint Report made Nov. 28, 1934, by the Department of Public Health and the Department of Public Works, acting as a Joint Board, under Chapter 49, Resolves of 1934. (H. 1250 of 1935.)

¹Resigned Feb. 6, 1935.

²Appointed Registrar of Motor Vehicles, Feb. 7, 1935.

RECOMMENDATIONS FOR LEGISLATION

The Commissioner of Public Works presented to the State Secretary on Dec. 4, 1935, as required by law that part of the current annual report which contains recommendations or suggestions for legislative action as follows:—

1. In order to provide for a revision of the motor vehicle law fixing the registration fee for certain motor vehicles, a modification of section 33, chapter 90, General Laws, as amended by chapter 409, Acts of 1935, is recommended, in its application to the rate fixed for registration of certain trucks and tractors.

APPROPRIATIONS

Chapter 249, Acts of 1935, making appropriations for the maintenance of departments, boards, commissions, institutions and certain activities of the Commonwealth, etc., is, in part, as follows:—

Item

Requirements for Extinguishing the State Debt

219. For sinking fund requirements and for certain serial bonds maturing during the present year, the sum of two million five hundred ninety-eight thousand one hundred ninety dollars and eighty-three cents, payable from the following accounts and funds in the following amounts:—from the Highway Fund, one million one hundred eighty thousand one hundred seven dollars and fifty cents; and the remainder from the General Fund . \$2,598,190 83
- 219a. To meet one fourth of the expenditures authorized by sections one and two of chapter one hundred and twenty-two of the acts of nineteen hundred and thirty-one, as amended, and already in the main incurred, which is the proportionate part intended to be ultimately met by the commonwealth during the current fiscal year, thereby reducing by the sum hereby appropriated the amount that may be borrowed under section three of said chapter, without otherwise affecting the authority to borrow under said section three the remainder of the amount authorized to be borrowed thereunder, the sum of two million one hundred and twenty-five thousand dollars, the same to be paid from the Highway Fund 2,125,000 00

Interest on the Public Debt

220. For the payment of interest on the direct debt of the commonwealth, a sum not exceeding nine hundred thirty thousand dollars, of which sum three hundred seventy-four thousand five hundred forty-six dollars and twenty-five cents shall be paid from the Highway Fund 930,000 00

Service of the Department of Banking and Insurance
Division of Insurance:

307. For other personal services of the division, including expenses of the board of appeal and certain other costs of supervising motor vehicle liability insurance, a sum not exceeding one hundred ninety-five thousand dollars, of which sum not more than thirty-five thousand dollars may be charged to the Highway Fund 195,000 00

Service of the Department of Corporations and Taxation
Corporations and Tax Divisions:

313. For the salaries of certain positions filled by the commissioner, with the approval of the governor and council, and for additional clerical and other assistance, a sum not exceeding two hundred twenty-seven thousand four hundred dollars, of which sum not more than fifty thou-

Item

sand dollars may be charged to the Highway Fund to cover the estimated cost of collection of the gasoline tax, so called, and not more than fifty thousand dollars may be payable from fees collected under chapters one hundred and twenty and two hundred and thirty-four, both of the acts of nineteen hundred and thirty-three, and under section twenty-seven of chapter one hundred and thirty-eight of the General Laws, as most recently amended, to cover the estimated cost of collection of alcoholic beverages taxes, so called . . . \$227,400 00

Service of the Department of Public Safety

Division of State Police:

616. For the salaries of officers, including detectives, a sum not exceeding five hundred thousand dollars, of which sum not more than one hundred eighty-four thousand dollars may be charged to the Highway Fund. The additional detectives, for which provision is hereby made, when appointed, shall not be under twenty-five years of age or over fifty years of age, notwithstanding the provisions of any other law to the contrary . . . 500,000 00
618. For other necessary expenses of the uniformed division, including traveling expenses of detectives, a sum not exceeding four hundred thirty-nine thousand dollars, of which sum not more than one hundred forty-one thousand dollars may be charged to the Highway Fund . . . 439,000 00

Service of the Department of Public Works

The appropriations made in the following four items are to be paid three quarters from the Highway Fund and one quarter from the Port of Boston receipts:

635. For the salaries of the commissioner and the associate commissioners, a sum not exceeding nineteen thousand five hundred dollars . . . 19,500 00
636. For personal services of clerks and assistants to the commissioner, a sum not exceeding eighty-four hundred dollars . . . 8,400 00
637. For traveling expenses of the commissioners, a sum not exceeding two thousand dollars . . . 2,000 00
638. For telephone service in the public works building, a sum not exceeding twenty-three thousand dollars . . . 23,000 00
- Functions of the department relating to highways (the following appropriations, except as otherwise provided, are made from the Highway Fund):
639. For the maintenance and operation of the public works building, a sum not exceeding one hundred seven thousand nine hundred dollars . . . 107,900 00
640. For the salaries of watchmen for the public works building, a sum not exceeding fourteen thousand two hundred and eighty dollars . . . 14,280 00
- The department of public works is hereby authorized to rebate the rent of certain space in the public works building occupied by the Copeland News Service.
- The department of public works is hereby authorized to rebate the rent of certain space in the public works building occupied by the federal auditors on Public Works Administration projects.
642. For personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding ninety-two thousand dollars . . . 92,000 00

Item

643.	For services other than personal, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, a sum not exceeding eleven thousand five hundred dollars	\$11,500 00
644.	For the suppression of gypsy and brown tail moths on state highways, a sum not exceeding thirteen thousand five hundred dollars	13,500 00
645.	For the construction and repair of town and county ways, a sum not exceeding two million three hundred and fifty thousand dollars	2,350,000 00
646.	For aiding towns in the repair and improvement of public ways, a sum not exceeding one million four hundred fifty thousand dollars	1,450,000 00
647.	For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights; for payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the maintenance of a nursery for roadside planting, a sum not exceeding three million one hundred forty-five thousand dollars	3,145,000 00
647a.	For the purpose of enabling the department of public works to secure federal aid for the construction of highways, a sum not exceeding five hundred thousand dollars	500,000 00
648.	For administering the law relative to advertising signs near highways, a sum not exceeding fifteen thousand dollars, to be paid from the General Fund	15,000 00
649.	For expenses of a topographical survey and map of the commonwealth, in addition to funds received from federal appropriations or private subscriptions, a sum not exceeding fifty thousand dollars	50,000 00
Registration of Motor Vehicles:		
650.	For personal services, a sum not exceeding nine hundred fifty-two thousand dollars, of which sum ten thousand dollars may be charged to the General Fund, and the remainder shall be paid from the Highway Fund	952,000 00
651.	For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding four hundred eighty-three thousand dollars, to be paid from the Highway Fund	483,000 00
652.	For printing and other expenses necessary in connection with publicity for certain safety work, a sum not exceeding one thousand dollars, to be paid from the Highway Fund	1,000 00
653.	For the reconstruction of Ocean avenue in the city of Revere, as authorized by chapter three hundred and seventy-five of the acts of nineteen hundred and thirty-four, a sum not exceeding eighty thousand dollars, the same to be in addition to any amounts heretofore appropriated	80,000 00
Functions of the department relating to waterways and public lands:		
654.	For personal services of the chief engineer and assistants, a sum not exceeding fifty-five thousand dollars	55,000 00
655.	For services other than personal, including printing pamphlet of laws and the annual report, and for necessary	

Item		
	office and engineering supplies and equipment, a sum not exceeding sixteen hundred dollars	\$1,600 00
656.	For the care and maintenance of the province lands and of the lands acquired and structures erected by the Provincetown tercentenary commission, a sum not exceeding five thousand dollars	5,000 00
657.	For the maintenance of structures, and for repairing damages along the coast line or river banks of the commonwealth, and for the removal of wrecks and other obstructions from tide waters and great ponds; a sum not exceeding twenty-two thousand five hundred dollars	22,500 00
658.	For the improvement, development and protection of rivers and harbors, tide waters and foreshores within the commonwealth, as authorized by section eleven of chapter ninety-one of the General Laws, as appearing in the Tercentenary Edition thereof, and of great ponds, a sum not exceeding one hundred thousand dollars, and any unexpended balance of the appropriation remaining at the end of the current fiscal year may be expended in the succeeding fiscal year for the same purposes; provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered	100,000 00
659.	For re-establishing and permanently marking certain triangulation points and sections, as required by order of the land court in accordance with section thirty-three of chapter ninety-one of the General Laws, as appearing in the Tercentenary Edition thereof, a sum not exceeding one thousand dollars	1,000 00
660.	For expenses of surveying certain town boundaries, by the department of public works, a sum not exceeding five hundred dollars	500 00
661.	For the operation and maintenance of the New Bedford state pier, a sum not exceeding twelve thousand dollars	12,000 00
662.	For the compensation of dumping inspectors, a sum not exceeding five hundred dollars	500 00
663.	For continuing the work in gauging the flow of water in the streams of the commonwealth, a sum not exceeding five thousand dollars	5,000 00
664.	For the maintenance and repair of certain property in the town of Plymouth, a sum not exceeding three thousand dollars	3,000 00
665.	For the operation and maintenance of the Cape Cod Canal pier, a sum not exceeding thirty-five hundred dollars	3,500 00
666.	For expenses of perambulating state boundary lines, a sum not exceeding one thousand dollars	1,000 00
	The unexpended balance of the appropriation made by item six hundred and thirty-eight of chapter two hundred and forty-five of the acts of nineteen hundred and thirty-one for certain work in the Taunton River, authorized by chapter four hundred and five of the acts of nineteen hundred and thirty, which was reappropriated by chapter one hundred and seventy-four of the acts of nineteen hundred and thirty-three, is hereby again reappropriated.	

Item

666a.	For the reconstruction of a certain pier at Plymouth, a sum not exceeding forty-five thousand dollars	\$45,000 00
	Total	\$255,600 00

Functions of the department relating to Port of Boston
(the following items are to be paid from the Port of
Boston receipts):

667.	For the construction of railroads and piers and for the development of certain land, a sum not exceeding ten thousand dollars	10,000 00
668.	For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding one hundred eight thousand dollars	108,000 00
669.	For the maintenance and improvement of commonwealth property under the control of the department in connection with its functions relating to waterways and public lands, a sum not exceeding eighty thousand dollars	80,000 00
670.	For dredging channels and filling flats, a sum not exceeding ninety thousand dollars, the same to be in addition to any unexpended balance of the appropriation made for the purpose in the previous year	90,000 00

Miscellaneous

The following items are to be paid from the Highway
Fund, with the approval of the Metropolitan District
Commission:

691.	For maintenance of boulevards and parkways, a sum not exceeding five hundred sixty-eight thousand six hundred and seventy-five dollars	568,675 00
692.	For resurfacing of boulevards and parkways, a sum not exceeding two hundred seventy-five thousand dollars	275,000 00
	There is hereby reappropriated from the unexpended balance of the appropriation for resurfacing of boulevards and parkways for the fiscal year nineteen hundred and thirty-three the sum of twenty-six hundred eighty-two dollars and eighty-seven cents.	
693.	For maintenance of Wellington bridge, a sum not exceeding forty-seven hundred and eighty dollars	4,780 00

Unclassified Accounts and Claims

For certain other aid:

699.	For the compensation of certain public employees for injuries sustained in the course of their employment, as provided by section sixty-nine of chapter one hundred and fifty-two of the General Laws, as most recently amended by section seven of chapter three hundred and eighteen of the acts of nineteen hundred and thirty-three, a sum not exceeding fifty-five thousand dollars, of which sum not more than twenty thousand dollars may be charged to the Highway Fund	55,000 00
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DEFICIENCIES

For deficiencies in certain appropriations of previous
years, in certain items, as follows:

Service of the Department of Public Works

Functions of the department relating to highways:		
For the suppression of gypsy and brown tail moths on state highways, the sum of ninety-one dollars and forty-three cents, to be paid from the Highway Fund		\$91 43
For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights; for payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the maintenance of a nursery for roadside planting, the sum of twenty dollars and seventy-eight cents, to be paid from the Highway Fund		20 78
Functions of the department relating to waterways and public lands:		
For the operation and maintenance of the New Bedford state pier, the sum of sixty-four dollars and twenty-four cents		64 24
For the operation and maintenance of the Cape Cod Canal pier, the sum of one hundred three dollars and twenty-eight cents		103 28
Functions of the department relating to Port of Boston:		
For the maintenance and improvement of commonwealth property under the control of the department in connection with its functions relating to waterways and public lands, the sum of seventy-two cents, to be paid from the Port of Boston receipts		72

SECTION 3. To provide for increases in the salaries and compensation of certain state officers and employees to be granted under the provisions of sections forty-five to fifty, inclusive, of chapter thirty of the General Laws, as appearing in the Tercentenary Edition thereof, there is hereby appropriated a sum not exceeding four hundred thousand dollars, of which sum not more than sixty thousand dollars shall be taken from the Highway Fund, not more than thirty thousand dollars from funds of the metropolitan district commission, and the balance from the General Fund, the same to be in addition to any appropriations otherwise made for such salaries and compensation. For the purpose of apportioning the appropriation made by this section, each sum expressed by section two of this act to be available in whole or in part for personal services shall be increased by such amount as will make available for salaries and compensation provided for thereby, so much as is required to provide for the aforesaid increases in such salaries and compensation. The state comptroller, in setting up such items for personal services on the appropriation ledger in his bureau, shall take as the amounts appropriated therefor by section one and this section the sums so expressed as increased as aforesaid, and he shall forthwith notify each officer having charge of any office, department or undertaking which receives such an appropriation for personal services of the amount thereof as so set up. The division of personnel and standardization shall furnish, upon the request of the state comptroller, all necessary assistance in carrying out the provisions of this act.

SECTION 4. No expenditures in excess of appropriations provided for under this act shall be incurred by any department or institution, except in cases of emergency, and then only upon the prior written approval of the governor and council.

SECTION 6. No payment shall be made or obligation incurred under authority of any special appropriation made by this act for construction of public buildings or other improvements at state institutions until plans and specifications have been approved by the governor, unless otherwise provided by such rules and regulations as the governor may make.

SECTION 7. No expenses incurred for mid-day meals by state employees, other than those who receive as part of their compensation a non-cash allowance in the form of full or complete boarding and housing, and those employees who are stationed beyond commuting distance from their homes for a period of more than twenty-four hours, shall be allowed by the commonwealth.

SUPPLEMENTARY APPROPRIATIONS

Chapter 497, Acts of 1935, in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is, in part, as follows:—

SECTION 1. To provide for supplementing certain items in the general appropriation act, and for certain new activities and projects, the sums set forth in section two, for the particular purposes and subject to the conditions stated therein, are hereby appropriated from the general fund or ordinary revenue of the commonwealth, unless some other source of revenue is expressed, subject to the provisions of law regulating the disbursement of public funds and the approval thereof.

SECTION 2.

Item

Service of the Department of Public Works

The appropriation made in the following item is to be paid three quarters from the Highway Fund and one quarter from the Port of Boston receipts:

636.	For personal services of clerks and assistants to the commissioner, a sum not exceeding twelve hundred dollars, the same to be in addition to any amount heretofore appropriated for the purpose	\$1,200 00
	Functions of the department relating to highways (the following appropriations, except as otherwise provided, are made from the Highway Fund):	
639.	For the maintenance and operation of the public works building, a sum not exceeding twenty-five thousand seven hundred dollars, the same to be in addition to any amount heretofore appropriated for the purpose	25,700 00
640.	For the salaries of watchmen for the public works building, a sum not exceeding sixty-five hundred dollars, the same to be in addition to any amount heretofore appropriated for the purpose	6,500 00
642.	For personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding fourteen hundred and forty dollars, the same to be in addition to any amount heretofore appropriated for the purpose	1,440 00
643a.	For expense of membership of the department in the American Association of State Highway Officials, a sum not exceeding three hundred and fifty dollars	350 00
647.	For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights; for payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the maintenance of a nursery for roadside planting, a sum not exceeding four hundred ninety-seven thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	497,000 00

Registration of Motor Vehicles:

650.	For personal services, a sum not exceeding ten thousand five hundred dollars, to be paid from the Highway Fund and	
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Item		
	to be in addition to any amount heretofore appropriated for the purpose	\$10,500 00
651.	For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding thirty-seven thousand dollars, to be paid from the Highway Fund and to be in addition to any amount heretofore appropriated for the purpose	37,000 00
	Specials:	
653a.	For the payment of land damages incidental to the road expenditures authorized by chapter four hundred and twenty of the acts of nineteen hundred and thirty, a sum not exceeding twenty-five thousand dollars, to be paid from the Highway Fund. Section twelve of said chapter four hundred and twenty shall not apply to this item	25,000 00
653b.	For the payment of land damages incidental to the road expenditures authorized by chapter three hundred and forty-one of the acts of nineteen hundred and thirty-four, a sum not exceeding twenty-five thousand dollars, to be paid from the Highway Fund	25,000 00
	Functions of the department relating to waterways and public lands:	
660.	For expenses of surveying certain town boundaries, by the department of public works, a sum not exceeding five hundred dollars, the same to be in addition to any amount heretofore appropriated for the purpose	500 00
665.	For the operation and maintenance of the Cape Cod Canal pier, a sum not exceeding one thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	1,000 00
666.	For expenses of perambulating state boundary lines, a sum not exceeding twenty-five hundred dollars, the same to be in addition to any amount heretofore appropriated for the purpose	2,500 00
666b.	(This item omitted.)	
666c.	For expenses of certain improvements at the New Bedford pier, as authorized by chapter three hundred and eighty-nine of the acts of the current year, a sum not exceeding ten thousand dollars	10,000 00
666d.	For expenses of certain improvements in the Salisbury reclamation district, as authorized by chapter three hundred and ninety-nine of the acts of the current year, a sum not exceeding thirteen thousand dollars	13,000 00
666e.	For expenditures for flood control of the Housatonic river, as authorized by chapter four hundred and thirteen of the acts of the current year, a sum not exceeding twelve thousand five hundred dollars	12,500 00
	Functions of the department relating to Port of Boston (the following items are to be paid from the Port of Boston receipts):	
668.	For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding sixty-	

Item

	two hundred and fifty dollars, the same to be in addition to any amount heretofore appropriated for the purpose	\$6,250 00
668a.	For deficiencies in appropriations of previous years for the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding four thousand sixty dollars and six cents	4,060 06
669.	For the maintenance and improvement of commonwealth property under the control of the department in connection with its functions relating to waterways and public lands, a sum not exceeding twenty thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	20,000 00
670.	For dredging channels and filling flats, a sum not exceeding thirty-five thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	35,000 00
670a.	For the removal of certain abandoned hulks in Boston Harbor, as authorized by chapter two hundred and eighty-two of the acts of the current year, a sum not exceeding five thousand dollars	5,000 00

Miscellaneous

The following items are to be paid from the Highway Fund, with the approval of the Metropolitan District Commission:

691.	For maintenance of boulevards and parkways, a sum not exceeding twenty-eight thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	28,000 00
692a.	For the extension of the Mystic Valley Parkway, so-called, as authorized by chapter three hundred and seven of the acts of the current year, a sum not exceeding ten thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	10,000 00

Unclassified Accounts and Claims

705.	For the payment of claims authorized by certain resolves of the current year, a sum not exceeding thirty-six thousand eight hundred forty-seven dollars and ninety-six cents of which sum twenty-five hundred dollars shall be paid from the Highway Fund. Said payments shall be certified by the comptroller of the commonwealth only upon the filing of satisfactory releases or other evidence that the payments are accepted as full compensation on the part of the commonwealth in respect thereto	36,847 96
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DEFICIENCIES

For deficiencies in certain appropriations of previous years, in certain items, as follows:

Department of Public Works

For services other than personal for functions of the department relating to highways, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, the sum of eight dollars, to be paid from the Highway Fund	8 00
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For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights; for payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the maintenance of a nursery for roadside planting, the sum of twenty dollars, to be paid from the Highway Fund	\$20 00
For the maintenance and improvement of commonwealth property under the control of the department in connection with its functions relating to waterways and public lands, the sum of one hundred forty-nine dollars and eighteen cents	149 18

Other Appropriations

653. For the reconstruction of Ocean avenue in the city of Revere, as authorized by chapter three hundred and seventy-five of the acts of nineteen hundred and thirty-four, as amended by chapter four hundred and eighty-seven of the acts of the current year, a sum not exceeding twenty-five thousand dollars, to be paid from the Highway Fund and to be in addition to any amount heretofore appropriated for the purpose; provided, that the department of public works is hereby authorized to contract forthwith for work and to incur any other incidental expenses authorized up to the amount of six hundred and ten thousand dollars, as authorized by said chapter three hundred and seventy-five, as amended, and the state treasurer, for the purposes of this act, may borrow under authority granted by section forty-seven of chapter twenty-nine of the General Laws, as appearing in the Tercenary Edition thereof	25,000 00
645. For the construction and repair of town and county ways, a sum not exceeding twenty-five thousand dollars, to be paid from the Highway Fund and to be in addition to any amount heretofore appropriated for the purpose .	25,000 00

HIGHWAY FUND DIVERSION

Chapter 476, Acts of 1935, provided for the transfer of the proceeds of the gasoline tax from the Highway Fund to the General Fund, as follows:

WHEREAS, The deferred operation of this act would tend to defeat its purpose, therefore it is hereby declared to be an emergency law, necessary for the immediate preservation of the public convenience.

BE IT ENACTED, ETC., AS FOLLOWS:

The state treasurer is hereby authorized and directed to transfer the sum of nine million five hundred thousand dollars from the Highway Fund to the General Fund.

BOND ISSUE LEGISLATION

Chapter 464, Acts of 1935, provided for a Public Works Program for the Purpose of Alleviating Existing Conditions resulting from Unemployment, as follows:

WHEREAS, The deferred operation of this act would tend to defeat its purpose, therefore it is hereby declared to be an emergency law, necessary for the immediate preservation of the public convenience.

BE IT ENACTED BY THE SENATE AND HOUSE OF REPRESENTATIVES IN GENERAL COURT ASSEMBLED, AND BY THE AUTHORITY OF THE SAME, AS FOLLOWS: SECTION 1. The following classes of public works projects may be carried out by the state department of public works or

under its direct supervision, subject to the following conditions and restrictions and within the following limits of aggregate ultimate liability on the part of the commonwealth:

Limits of Aggregate Ultimate Liability on the Part of the Commonwealth

(1) Highway projects, including alterations of highway bridges over or under railroads and the construction and reconstruction of circles, to be carried out, under the direct supervision of the department of public works, by any city or town eligible to receive allotments under chapter eighty-one or ninety of the General Laws, any such project to be paid for out of one hundred per cent grant to a city or town so eligible, except that an allotment for engineering services may be made at the discretion of the commissioner of said department before any such grant is made . . . \$2,300,000 00

Said sum of \$2,300,000.00 shall be composed of the following items: I, Engineering, \$200,000.00; II, To towns under chapter 81 of the General Laws, \$50 per mile of public ways; III, To cities and towns not eligible under chapter 81 upon the basis of their respective payments for the state tax.

(2) Projects for the construction of sidewalks bordering state highways, to be carried out by said department, including expenses for engineering and land damages . . . 4,000,000 00

(3) Highway projects under the Hayden-Cartwright bill, so called . . . 1,741,877 00

(4) Grade crossing eliminations, including alterations of crossings not at grade, and highway projects, including construction, reconstruction and maintenance of state highways, land damages and expenses for engineering services, and also expenses necessary to carry out any highway or grade crossing projects to which the federal government contributes . . . 3,958,123 00

(5) Projects for the improvement, development and protection of rivers and harbors, tide waters and foreshores, including work on Commonwealth Pier . . . 1,000,000 00

(Of which not less than \$250,000.00 shall be expended elsewhere than in Boston Harbor.)

The commissioner of said department shall have full authority to select the projects that may be entered into under authority hereof and to carry out negotiations and enter into agreements relative thereto with the appropriate agencies of the federal government, if deemed advisable by him, and no project shall be entered into hereunder unless it is approved by him. The commonwealth may accept and use for any project so approved any grant of federal funds. For the purpose of carrying out projects under this act, the state treasurer may, from time to time, borrow on the credit of the commonwealth such sums, not exceeding in the aggregate thirteen million dollars and may issue in one or more series bonds, notes or other forms of written acknowledgment of debt, hereinafter referred to as obligations. Each series shall carry such rates of interest as the state treasurer may fix, with the approval of the governor, and shall be payable serially in such amounts and at such times as the state treasurer may determine, with the approval of the governor; provided, that the principal payments of each series shall be made annually in amounts as nearly equal as may be. The obligation last payable of any series issued hereunder shall become due not later than five years from the date of the obligations of such series. All obligations issued under this act shall be signed by the state treasurer and approved by the governor. Facsimiles of the signature of the governor printed thereon shall have the same effect as his written signature. All obligations issued under this act shall be payable, as to both principal and interest, in such funds as are, on the respective dates of payment of such principal and interest, legal tender for the payment of debts due

the United States of America. All interest payments and payments on account of principal on such obligations shall be paid from the Highway Fund, without appropriation; provided, that, notwithstanding the foregoing, such obligations shall be general obligations of the commonwealth. In anticipation of the sale of such obligations, the state treasurer may from time to time, with the approval of the governor, pay from the Highway Fund, without appropriation, any of the expenses of carrying out any projects authorized under this act; but all money so paid from said fund shall be repaid thereto out of the proceeds of the sale of such obligations.

SECTION 2. For the purposes of this act, the state department of public works and any city or town may enter into agreements whereby a city or town may obligate itself to acquire such lands or rights therein as may be necessary for carrying out any project aforesaid or to pay all expenses incident to the acquisition of such lands and rights therein, or both. For the purposes of this act, the state department of public works, on behalf of the commonwealth, or on behalf of any city or town entering into an agreement to carry out any project as aforesaid, or any city or town so entering into any agreement aforesaid on its own behalf, may enter upon or take by eminent domain under chapter seventy-nine of the General Laws, or acquire by purchase or otherwise, such public or private lands, cemeteries, public parks or reservations or parts thereof or rights therein, including lands or rights therein under the control of the metropolitan district commission, or such public ways, as may be necessary for carrying out any such project, including such lands or rights therein as may be necessary for the construction of any necessary drainage outlets; provided that no damages shall be paid for public lands or parks, parkways or reservations so taken. Upon the recording of an order to that effect by said department in its office, the title to and control of lands or rights therein taken or acquired in connection with a highway project, other than a state highway project, shall become vested in the city or town in which the land lies or the control of land or rights therein so taken or acquired shall become vested in the metropolitan district commission, and thereafter the highway improvement completed under such project shall be kept in good condition and repair by such city or town or the metropolitan district commission, as the case may be.

SECTION 3. For the purpose of paying any expenses incurred under any agreement entered into under the preceding section, a city, town or county may borrow such sums as may be necessary, and may issue bonds or notes therefor which shall be payable in not more than ten years; and such indebtedness shall, except as herein provided, be subject to chapter forty-four of the General Laws in the case of a city or town, and to chapter thirty-five of the General Laws in the case of a county. Any borrowing hereunder by a city or town may be outside its statutory limit of indebtedness.

Approved August 5, 1935.

FINANCIAL STATEMENTS

Summary of Income, Year Ending November 30, 1935

HIGHWAY FUND

(Section 34, Chapter 90, General Laws, as amended)

(See Chapter 288, Acts of 1925)

Fees (for registration of motor vehicles, licenses to operate, etc.) and fines (penalties, Sundry Courts), gross receipts	\$6,842,153	56
Gasoline tax, gross	17,366,074	32
Contributions for highways and assessments (G. L. Ch. 81)	156,094	16
Appropriation balances of previous years reverting	171,087	54
Contributions and refunds	13,800	80
Sale of old materials and buildings	3,112	05
Reimbursement for repairs to guard rail and other property	10,741	66
Rent of property (Nursery)	192	00
Rent of space, Public Works Building	52,328	64
Slot Machine Receipts	213	20
Premium and Interest on Bonds	99,108	89
		<hr/>
	\$24,714,906	82

PORT OF BOSTON FUND

(Chapter 91, General Laws)

Rents (leases and permits)	\$144,609	93
Reimbursement for services (inspection of dumping dredged material in Boston Harbor)	94	86
Use of Commonwealth Pier No. 5 (wharfage, dockage, rentals, etc.)	116,813	77
Use of Commonwealth Pier No. 1 (rentals, etc.)	8,141	90
Revenue from permits for dumping dredged material at receiving basins	5,540	88
License charges (for tidewater displacement and occupying Commonwealth tide land, Boston Harbor)	40,162	38
Telephone pay station receipts	156	25
Sales of land	41,291	00
Sales of Boston Harbor maps		75
Appropriation balances of previous years reverting	2,511	75
		<hr/>
	\$359,323	47

DEPARTMENT INCOME

(Ordinary Revenue)

Sales (specifications and plans for contracts)	\$456	00
Aircraft licenses	152	00
Reimbursement for services (inspection of dumping dredged material outside of Boston Harbor, Ch. 196, Acts of 1925)	398	97
License charges (for tidewater displacement and occupying Commonwealth tide lands outside of Boston Harbor)	5,914	77
Certified copying charges	135	00
Sales of Atlas sheets and miscellaneous plans	713	00
Use of Province Lands (S. 25, C. 91, G. L.)	201	25
Permits for advertising signs	9,202	11
Use of New Bedford State Pier	23,921	89
Use of Cape Cod Canal State Pier	4,203	47
Sundries	63	34
		<hr/>
	\$45,361	80

IMPROVEMENT OF RIVERS AND HARBORS TRUST
(Sections 11, 29, Chapter 91, General Laws)

Contributions from towns, individuals or others . . . \$74,587 34

HIGHWAY TRUST

(Section 30, Chapter 81, G. L.)

Federal Aid (reimbursement from United States Government) 3,309,287 63

Total \$28,503,467 06

EXPENDITURES

The expenditures by the Department under the provisions of General Laws and other acts and the appropriation acts, chapters 249 and 497, Acts of 1935, during the fiscal year ending November 30, 1935, were as follows:

ADMINISTRATIVE

Commissioners, Associate Commissioners, Personal services of clerks, stenographers, and Commissioners' travel	\$30,684 92	
Public Works Department Building, land and services	2,821 32	
Public Works Building, equipment	1,806 61	
Public Works Building, operation and maintenance	126,630 82	
Public Works Building, telephone service	23,380 81	
Public Works Building, Salaries of Watchmen	15,299 27	
<i>Total</i>		\$200,623 75

RELATING TO HIGHWAYS

Personal Services—Chief Engineer, clerks and stenographers \$94,055 31

<i>State Highways</i> —Construction (Chapter 81, G. L.)		
General contract work	\$2,870,873 75	
Engineering (supervision)	618,214 85	
Investigation of Worcester Pike	14,971 07	
Highway Testing Laboratory	11,500 08	
Triangulation Points	98 70	
Hingham-Hull (Chap. 118, Acts of 1931)	100 00	
Fore River Bridge:		
Substructure	\$493,221 31	
Superstructure	521,439 07	
		1,014,660 38
		\$4,530,418 83

Maintenance and Repair of State Highways (Chapter 81, General Laws)

<i>Reconstruction of State Highways</i>		
General contract work	\$1,146,824 34	
Engineering, supervision on reconstruction	359,806 23	
		\$1,506,630 57

Ordinary Maintenance

General Maintenance	\$1,989,289 11
Engineering (supervision)	229,312 18
Highway Testing Laboratory	9,913 87
Care and repair of road building machinery	187,052 14
Removal of snow from highways	940,316 31
Road planting and development	29,960 80
Traffic engineering, signs, and traffic count	140,467 98
Paint manufacture	18,270 79
Newburyport Bridge, Salisbury, Newburyport, over Merrimac River, maintenance and operation	4,691 92

Brightman St. Bridge, Fall River-Somerset, maintenance and operation	\$9,988 38	
New Bedford-Fairhaven Bridge, Acushnet River, maintenance and operation	11,743 88	
Quincy-Weymouth Bridge, maintenance and operation	19,834 72	
Detour and route maps	2,412 64	
Safety Advertising	2,000 00	
Geodetic Survey	3,419 56	
	<hr/>	\$3,598,674 28
<i>Construction of Town and County Ways</i> (Section 34, Chapter 90, G. L.)		
State's expenditures for work contracted for in cities and towns	\$2,110,178 46	
Engineering and expense (supervision)	330,407 37	
	<hr/>	\$2,440,585 83
<i>Aiding Towns in the Repair and Improvement of Public Ways</i> (Section 26, Chapter 81, G. L.)		
State's expenditures for work contracted for in cities and towns	\$1,413,011 45	
Engineering and expense (supervision)	121,788 46	
	<hr/>	\$1,534,799 91
<i>Emergency Public Works Construction</i>		3,237,453 73
<i>Special Acts:</i>		
<i>Incidentals</i> (printing, postage, supplies, etc.)		9,920 03
<i>Advertising signs, regulation of personal services and expenses</i>		15,253 09
<i>Highways in Malden, Braintree, Weymouth and Hingham</i>		
Hingham, Braintree and Weymouth		285 00
<i>Highways in Metropolitan District</i> (Chapter 420, Acts of 1930, as amended by Chapter 450, Acts of 1931)		
Section 1. Canton-Dedham-Wellesley, etc.	\$13,086 89	
Section 2. Canterbury St., Boston	45,108 46	
Section 3. Land taking—Neponset River, Mil- ton	400 00	
Section 4. West Roxbury-Brookline Parkway	13,817 20	
	<hr/>	72,412 55
<i>Abolition of Grade Crossings</i> (Chapter 417, Acts of 1930)		1,700 55
<i>Construction of Saugus River Bridge</i> (Chapter 241, Acts of 1932)		2,801 55
<i>Expenditures under Chapter 258, Acts of 1932.</i>		
Section 1. State Highway, Revere	\$14,455 00	
Section 2. Boston-Revere	2,858 29	
	<hr/>	17,313 29
<i>Alewife Brook Parkway Extension</i> (Chapter 302, Acts of 1932)		
		76,816 17
<i>Traffic Circle, Neponset River</i> (Chapter 341, Acts of 1934)		
		23,079 92
<i>Reconstruction of Ocean Avenue, Revere</i> (Chapter 375, Acts of 1934)		
		31,382 52
<i>Study relative to Bridges, Turners Falls</i> (Chap- ter 314, Acts of 1934)		
		5,427 50
<i>Chelsea North Bridge</i> (Chapter 342, Acts of 1924)		
		100,751 19
<i>Suppression of gypsy and brown-tail moths, on State Highways in cities and towns</i>		
		13,126 92
<i>Topographical survey and maps</i>		
		42,342 09
<i>Expense of membership in American Association of State Highway Officials</i>		
		350 00

Chap. 464, Acts of 1935—Bond Issue

Class 1. Cities and towns	\$2,075 197 32
Class 2. Construction of sidewalks	342,004 80
Class 4. Grade crossings, etc.	1,555,393 53
Class 5. Development of Boston Harbor	
	<hr/>
	\$3,972,595 65

Total Expenditures for Highways \$21,328,176 48

SUMMARY OF EXPENDITURES RELATING TO WATERWAYS

General Expenses \$57,230 00

Boston Harbor:

Bond Issue (Chap. 464, Acts 1935)	16,434 24
Dredging and Filling	129,435 21
Hough's Neck, Quincy, Construction (Chapter 322, Acts 1934)	8,480 54
Freeport Investigation (Chap. 48, Resolves 1934)	3,208 47
Maintenance and Operation of Commonwealth Pier 5, South Boston	106,000 03
Maintenance and Operation of Commonwealth Pier 1, East Boston. (No appropriation for 1935.)	
Maintenance of Property	137,615 13
Streets, Piers and Railroads	12,636 12
Wrecks, Removal of	5,253 14

Outside Boston Harbor:

Bond Issue (Chap. 464, Acts 1935)	97,190 97
Cape Cod Canal Pier, construction	75 00
Cape Cod Canal Pier, operation and maintenance	4,343 90
Cape Poge, Edgartown (Federal Public Works Adm.)	4,716 95
Compensation of Dumping Inspectors	63 46
Improvement of Rivers and Harbors	146,506 35
Marshfield Shore Protection (Chap. 407, Acts 1931)	78 75
New Bedford State Pier—Operation and Maintenance	8,920 96
New Bedford State Pier—(Chap. 389, Acts 1935)	4,341 03
Plymouth Property, expenses of	2,975 93
Plymouth State Pier, reconstruction (Chap. 245, Acts 1935)	32,028 19
Province Lands, expenses of	4,988 63
Repairing Damages to shore	21,833 98
Scituate Shore Protection (Chap. 286, Acts 1933)	50 00
State Boundary Lines, perambulation of	2,233 49
Stream Gauging	5,000 00
Topographical Survey	848 66
Town Boundaries, Surveying	842 23
Winthrop Breakwater Extension (Chap. 286, Acts 1934)	43,851 84

Total \$857,183 20

EXPENDITURES RELATING TO THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles \$1,460 524 17

SUMMARY OF EXPENDITURES BY DEPARTMENT
FOR YEAR ENDING NOVEMBER 30, 1935

Administrative	\$200,623 75
Relating to Highways	21,328,176 48
Registry of Motor Vehicles	1,460,524 17
Relating to Waterways	857,183 20

Total \$23,846,507 60

CO-OPERATIVE WORK — SUPERVISION OF EXPENDITURES

The Department has supervised the expenditures during the year by cities, towns and counties, under Chapter 81, General Laws, as amended, of approximately \$2,987,436.93 for co-operative work, in repairing, maintaining and improving certain public ways, and for other road work for which the towns and cities made contributions. All such work was carried out in conformity with contracts, specifications and plans approved by the Department.

Financial statement verified,
Approved, GEO. E. MURPHY, *Comptroller*.

RELATING TO HIGHWAYS

GENERAL STATEMENT

State Highways.—During the year ending November 30, 1935, the Department laid out new State highways amounting to 25.16 miles in 14 cities and towns. Under Chapter 81, General Laws, as amended by Chapter 427, Acts of 1931, 2.04 miles of State highway were discontinued or abandoned. The total length of State highways at the end of the year was 1,875.38 miles.

Highways Constructed in 1935.—Construction has been completed on 21.344 miles of State highway and 163.815 miles of highway under the provisions of Section 34, Chapter 90, General Laws, as amended, making a total of 185.159 miles completed during the year.

Of the above highways completed this year, the classification according to type of pavement is as follows:

- 5.029 miles of Reinforced Cement Concrete.
- 2.792 miles of Sheet Type Cement Concrete.
- 57.617 miles of Bituminous Macadam.
- 16.257 miles of Bituminous Concrete.
- 45.525 miles of Bituminous Concrete (Mixed in Place).
- 33.576 miles of Gravel with Bituminous Treatment.
- 13.185 miles of Gravel.
- 11.178 miles of Penolithic.

Resurfacing, Reconstruction and Widening of State Highways.—During the year 3.517 miles of State highway were widened but not resurfaced, and 38.778 miles were resurfaced or reconstructed and widened. In addition to this work on which the surfacing has been completed, there are several miles of road in various stages of completion which are scheduled to be finished next year.

The Resurfacing or Reconstruction of State Highways in 1935 was divided into types as follows:

- 2.242 miles of Reinforced Cement Concrete.
- 19.069 miles of Bituminous Macadam.
- 17.202 miles of Bituminous Concrete.
- 0.265 miles of Penolithic.

Surveys, Plans and Estimates.—During the year ending November 30, 1935, preliminary surveys, plans and estimates were made as follows:

For State Highway Construction.—Reconnaissance surveys and plans in 1 city and 17 towns, 68.48 miles; preliminary surveys in 7 cities and 35 towns, 84.983 miles; plans in 2 cities and 16 towns, 30.637 miles; preliminary estimates in 4 cities and 12 towns, 22.923 miles; lines and grades in 3 cities and 14 towns, 27.193 miles; and final surveys in 3 cities and 18 towns, 28.975 miles.

For State Highway Reconstruction and Resurfacing.—Reconnaissance surveys and plans in 5 towns, 11.052 miles; preliminary surveys in 5 cities and 23 towns, 45.147 miles; plans in 6 cities and 19 towns, 41.435 miles; preliminary estimates in 4 cities and 11 towns, 36.325 miles; lines and grades in 5 cities and 19 towns, 71.780 miles; and final surveys in 4 cities and 27 towns, 75.520 miles.

For State Highway Maintenance.—Preliminary surveys and plans in 1 city and 6 towns, 8.470 miles; lines and grades in 1 city and 6 towns, 8.470 miles.

Under Section 34, Chapter 90, General Laws, as amended.—Reconnaissance surveys and plans in 13 towns, 12.25 miles; preliminary surveys in 13 cities and 228 towns, 246.107 miles; plans in 13 cities and 231 towns, 225.304 miles; prelimi-

nary estimates in 12 cities and 201 towns, 175.295 miles; lines and grades in 18 cities and 199 towns, 182.134 miles; and final surveys in 8 cities and 92 towns, 85.643 miles.

Under the provisions of various Acts and Resolves, surveys, plans, estimates, lines and grades were made as follows:

Chapter 375, Acts of 1934: 0.0265 mile of surveys and plans in 1 city, 0.802 mile of preliminary estimate and lines and grades in 1 city.

Precise levels have been made in 33 cities and towns; first order leveling, 166 miles have been made and 285 bench marks established; second order leveling, 57.4 miles have been made and 101 bench marks established.

Permits.—There were 1,748 permits issued during the year for opening or occupying State highways for various purposes.

Engineering Advice to Other Departments.—Advice to Department of Education; 0.218 mile of preliminary survey and plans in 1 town, 0.288 mile of preliminary estimate, lines and grades in 1 town.

Advice to Department of Public Health, 0.492 mile of preliminary survey, plans, lines and grades in 1 town.

Engineering Advice to Municipal Authorities.—The Department furnished engineering advice without charge to 34 cities and towns in accordance with the provisions of Section 1, Chapter 81, General Laws.

Approval of Specifications.—The Department approved during the year under the provisions of Section 7, Chapter 44, General Laws, as amended, specifications for the construction of roads in 19 cities and towns.

Planting of Trees on State Highways.—During the past year, 3,700 trees were planted along roadsides making a total of 73,615 trees thus set out in the past thirty-one years. In addition, there were planted throughout the State 7,378 shrubs, 1,997 vines, and 2,227 evergreens; also 950 small pines on bare slopes and ragged cuts.

PETITIONS, MEETINGS AND HEARINGS

In addition to the regular weekly meetings of the Department throughout the year, numerous hearings and conferences have been held, including the annual hearings in the several counties in the Commonwealth for the open discussion of questions relating to the public ways, as required by Section 1, Chapter 81, General Laws; appeals from the action taken by the Registrar of Motor Vehicles in the suspension or revocation of certain licenses to operate motor vehicles in 185 cases; on the matter of outdoor advertising in three towns; on the matter of the making of rules and regulations for the reasonable and proper control of transportation by motor vehicle of personal property over public ways; on the matter of special regulations for motor vehicles in Springfield, Milton, Canton, Lexington and Boston; on the matter of the relocation of the tracks of the Eastern Massachusetts Street Railway Company on the State highway in Boston; and on the matter of the elimination of grade crossings in Newbury and Weymouth.

Petitions were received and contracts signed during the year as follows:

	Petitions	Contracts
State highways	25	23
Work under section 34, chapter 90, General Laws	—	482
Work under section 26, chapter 81, General Laws	175	175
Work under Special Acts	—	3
Miscellaneous	—	17
Elimination of grade crossings	—	4
Total	200	704

STATE HIGHWAYS

Petitions for State Highways

General Laws, Chapter 81, Section 4 (Tercentenary Edition), provides that—
“If county commissioners, aldermen or selectmen adjudge that public necessity and convenience require that the Commonwealth lay out and take charge of a new or existing way as a highway in whole or in part, in their county, city or

town, they may apply, by a written petition, to the department, requesting that said way be laid out and taken charge of by the Commonwealth."

Petitions under the aforesaid section have been received during the year, as follows: —

SELECTMEN OF PETERSHAM: — Road locally known as the Phillipston Road, extending from Athol road to the dividing line between the towns of Petersham and Phillipston. Received Dec. 5, 1934.

SELECTMEN OF LYNNFIELD: — Road extending from the Newburyport Turnpike over a new location, at or near the crossing of the abandoned Boston & Maine Railroad, easterly to the dividing line between the town of Lynnfield and the city of Peabody at or near Locust Street. Received Jan. 14, 1935.

MAYOR AND COUNCILLORS OF PEABODY: — Road extending from the dividing line between the town of Lynnfield and the city of Peabody, at or near Locust Street, over a new location, easterly and northerly through the junction of Forest and Summit Streets to a point on the dividing line between the city of Peabody and the town of Danvers easterly from Andover Street. Received Jan. 14, 1935.

SELECTMEN OF LUDLOW: — Road extending from Ludlow Bridge northeasterly along Center Street to Ludlow Center, and thence easterly and northeasterly along Belchertown Street to the dividing line between the towns of Ludlow and Belchertown. Received Feb. 4, 1935.

MAYOR AND ALDERMEN OF HOLYOKE: — Road locally known as Main Street and Springfield Street, from the center line of Prew Avenue on the north to the city line at West Springfield on the south. Received Feb. 12, 1935.

SELECTMEN OF MONTAGUE: — Road extending over Federal Street, new location and Leverett Road from Main Street in Millers Falls southwesterly to the dividing line between the towns of Montague and Sunderland. Received Mar. 13, 1935.

SELECTMEN OF ATHOL: — Road extending from South Main Street near Gage Road, over a new location, southwesterly to the dividing line between the towns of Athol and Orange. Received Mar. 22, 1935.

SELECTMEN OF LEVERETT: — Road locally known as Long Plain Road, extending from the dividing line between the towns of Sunderland and Leverett to the dividing line between the towns of Leverett and Amherst. Received Apr. 10, 1935.

SELECTMEN OF AMHERST: — Road locally known as Leverett Street, extending from the dividing line between the towns of Leverett and Amherst to North Pleasant Street in Amherst. Received Apr. 10, 1935.

SELECTMEN OF SUNDERLAND: — Road extending from the dividing line between the towns of Montague and Sunderland, in a general southerly direction, to the dividing line between the towns of Sunderland and Hadley. Received Apr. 9, 1935.

SELECTMEN OF WEST STOCKBRIDGE: — Road extending from the State highway connecting West Stockbridge and Pittsfield westerly to the New York State line. Received May 14, 1935.

SELECTMEN OF MONTEREY: — Road extending from the dividing line between the towns of Great Barrington and Monterey, easterly through Montereve to the dividing line between the towns of Monterey and Otis. Received May 22, 1935.

SELECTMEN OF ALFORD: — Road locally known as the Green River Valley Road, extending from the dividing line between the towns of Egremont and Alford to the dividing line between the towns of Alford, Mass., and Hillsdale, N. Y. Received May 3, 1935.

SELECTMEN OF HATFIELD: — Road locally known as North Main and Elm Streets, extending from the dividing line between Whately and Hatfield to the dividing line between the town of Hatfield and city of Northampton. Received July 31, 1935.

SELECTMEN OF DANVERS: — Road extending from a point on the dividing line between the city of Peabody and the town of Danvers at or near Waters River, over a new location northerly and easterly to a point on the dividing

line between the town of Danvers and the city of Beverly near Folly Hill. Received Aug. 14, 1935.

MAYOR AND ALDERMEN OF PEABODY. — Road extending from a point on the dividing line, between the town of Lynnfield and the city of Peabody at or near Locust Street, easterly and northerly over a new location to a point on the dividing line between the city of Peabody and the town of Danvers at or near Waters River. Received Aug. 14, 1935.

MAYOR AND ALDERMEN OF BEVERLY: — Road extending from a point on the dividing line between the town of Danvers and the city of Beverly near Folly Hill, easterly over a new location to a point on the dividing line between the city of Beverly and the town of Wenham at or near Boulder Lane. Received Aug. 21, 1935.

SELECTMEN OF METHUEN: — Road locally known as Broadway, extending from Wardell Square at the junction of Broadway and Hampshire Street to the New Hampshire line. Received Sept. 5, 1935.

COUNTY COMMISSIONERS OF BARNSTABLE COUNTY: — Road extending from a point near the new Bourne Bridge, connecting with the Sagamore Bridge, and extending in a near direct line through the Mid Cape to Provincetown. Received Aug. 31, 1935.

SELECTMEN OF GREAT BARRINGTON: — Road extending from the junction of highway route 69 with routes 17 and 41 to the dividing line between the towns of Egremont and Great Barrington. Received Oct. 1, 1935.

MAYOR AND ALDERMEN OF NORTHAMPTON: — Road locally known as North King Street, extending from the end of the State highway between Greenfield and Northampton at Water Street southerly to the New York, New Haven & Hartford R. R. Underpass, also road locally known as North Main Street, extending from the end of the Berkshire Trail at Florence Street, Leeds, easterly to Bridge Road. Received Oct. 9, 1935.

SELECTMEN OF SHREWSBURY: — Road locally known as Main Street, extending from the junction of Main Street and Maple Avenue to the dividing line between the town of Shrewsbury and the city of Worcester. Received Oct. 24, 1935.

SELECTMEN OF SAUGUS: — Road extending from a point on the dividing line between the town of Saugus and city of Revere near the intersection of the boundary lines of Revere, Malden, Melrose, and Saugus northerly over a new location to the intersection of the Newburyport Turnpike and Felton Street. Received Nov. 1, 1935.

MAYOR AND CITY COUNCIL OF REVERE: — Road locally known as Squire Road, extending from Broadway westerly to a point near Stevens Street; thence on new location, northwesterly to a point on the dividing line between the cities of Malden and Revere near the intersection of Lynn and Salem Streets, also a short section of highway extending from the dividing line between the cities of Malden and Revere northerly over a new location to the dividing line between the city of Revere and town of Saugus near the intersection of the boundary lines of Revere, Malden, Melrose and Saugus. Received Nov. 7, 1935.

MAYOR AND ALDERMEN OF MALDEN: — Road extending from a point on the dividing line between the cities of Malden and Revere at or near the intersection of Lynn and Salem Streets, westerly and northerly over a new location to a point on the dividing line between the cities of Malden and Revere near the intersection of the boundary lines of Revere, Malden, Melrose and Saugus. Received Nov. 6, 1935.

CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS

(Chapter 81, General Laws, as amended)

The following contracts were entered into during the year for the construction and reconstruction of State highways, and work incidental thereto, in various municipalities: —

Dracut-Lowell-Methuen

Dec. 4, 1934, contract made with Ellsworth H. Lewis, of Andover, for reconstructing about 36,663 feet of State highway in Dracut, Lowell and Methuen, the surface consisting of bituminous concrete in Lowell and of bituminous macadam in Dracut and Methuen. The proposal amounted to \$278,579.30. Work completed Sept. 4, 1935. Expenditure during 1935, \$374,695.59.

Revere

Dec. 13, 1934, contract made with M. McDonough Co., of Saugus, for constructing the substructure of a steel bridge over the Boston, Revere Beach and Lynn Railroad on the North Shore Road in Revere, and surfacing the approaches thereto and the underpass road with bituminous macadam. The proposal amounted to \$139,340.80. Work completed Aug. 6, 1935. Expenditure during 1935, \$148,802.21.

Boston-Dedham

Dec. 26, 1934, contract made with Arute Bros., Incorporated, of Bridgewater, for constructing a precast reinforced concrete pile bridge with reinforced concrete beam deck over Mother Brook in Dedham on the Providence Turnpike Extension, about 5,144 feet of State highway on the Providence Turnpike and new location in Dedham, and about 3,464 feet of State highway on the same road in Boston, the surface over the bridge consisting of bituminous concrete, and the surface of the roadway consisting of sections of bituminous macadam, sheet asphalt, and plain concrete. The proposal amounted to \$288,701.70. Work completed Oct. 7, 1935. Expenditure during 1935, \$317,603.77.

Revere

Jan. 2, 1935, contract made with Lackawanna Steel Construction Corporation, of Buffalo, N. Y., for furnishing, fabricating and erecting a steel bridge superstructure over the Lynnway and the Boston, Revere Beach and Lynn Railroad. The proposal amounted to \$121,987.40. Work completed Aug. 1, 1935. Expenditure during 1935, \$121,610.66.

Otis

Jan. 8, 1935, contract made with Warner Bros. and Goodwin, Inc., of Sunderland, for constructing about 5,801 feet of State highway on Monterey Road, the surface consisting of stone mixed in place with tar. The proposal amounted to \$18,189.75. Work completed July 20, 1935. Expenditure during 1935, \$18,587.10.

Revere

Jan. 22, 1935, contract made with James G. Dempsey, of Philadelphia, Pa., for mill and shop inspection of structural steel for the superstructure of the highway bridge over the Boston, Revere Beach and Lynn Railroad. The proposal amounted to \$319.60. Work completed May 25, 1935. Expenditure during 1935, \$320.28.

Bourne-Wareham

Mar. 5, 1935, contract made with Charles I. Hosmer, Inc., of Greenfield, for constructing an extension to a reinforced concrete beam bridge over Cohasset Narrows. The proposal amounted to \$55,091.50. Work about four-fifths completed. Expenditure during 1935, \$52,190.08.

Cheshire

Mar. 5, 1935, contract made with The Lane Construction Corporation, of Meriden, Conn., for reconstructing about 11,819 feet of State highway on North Street; the surface consisting of reinforced cement concrete with bituminous macadam shoulders on each side. The proposal amounted to \$137,419.35. Work completed Sept. 24, 1935. Expenditure during 1935, \$144,658.81.

Northborough

April 30, 1935, contract made with Martin J. Kelly, of Boston, for furnishing and planting trees, shrubs, herbaceous plants and vines on the Worcester Turn-

pike and Southwest Connection. The proposal amounted to \$11,182.05. Work completed May 28, 1935. Expenditure during 1935, \$11,182.05.

Lenox-Sheffield

May 8, 1935, contract made with Warner Bros. and Goodwin, Inc., of Sunderland, for furnishing and planting trees, shrubs and vines on Automobile Route No. 7 in Lenox and Sheffield. The proposal amounted to \$11,108.30. Work completed Nov. 29, 1935. Expenditure during 1935, \$10,091.80.

Southwick

May 14, 1935, contract made with Warren Brothers Roads Company, of Cambridge, for reconstructing about 36,297 feet of State highway on College Highway; the surface consisting of Warcolite Bituminous Concrete Pavement. The proposal amounted to \$119,333.30. Work completed Oct. 28, 1935. Expenditure during 1935, \$105,008.20.

Framingham

May 28, 1935, contract made with Louis A. Reardon, of North Abington, for furnishing and planting trees, shrubs and vines in the town of Framingham. The proposal amounted to \$2,435.13. Work completed Nov. 19, 1935. Expenditure during 1935, \$2,435.13.

Athol-Orange

June 4, 1935, contract made with The Lane Construction Corporation, of Meriden, Conn., for constructing about 7,275 feet of State highway on New Salem Road in Athol, and about 8,103 feet of State highway on Plains Road in Orange; the surface consisting of bituminous macadam. The proposal amounted to \$96,680.40. Work practically completed. Expenditure during 1935, \$86,722. 22.

Athol

June 25, 1935, contract made with the Wey Construction Company, of Boston, for constructing a reinforced concrete extension of a concrete arch bridge over Lake Rohunta outlet, and a reinforced concrete pile bridge over Millers River, on the New Salem Road Cut-off. The proposal amounted to \$43,419.20. Work about three-fourths completed. Expenditure during 1935, \$36,434.35.

Rutland

May 21, 1935, contract made with J. J. Callahan, of Boston, for reconstructing about 4,400 feet of State highway on Worcester Road in Rutland; the surface consisting of bituminous macadam. The proposal amounted to \$16,664.50. Work completed Aug. 3, 1935. Expenditure during 1935, \$18,599.88.

Natick

June 25, 1935, contract made with M. E. Hennessy, of Brookline, for furnishing and planting trees, shrubs and vines at the junction of the Boston-Worcester Turnpike and North Main Street in Natick. The proposal amounted to \$4,984.55. Work completed Oct. 22, 1935. Expenditure during 1935, \$5,020.19.

Montague

July 16, 1935, contract made with Carlo Bianchi and Company, of Framingham, for constructing a reinforced concrete bridge over Saw Mill River, a plate girder bridge under the Central Vermont Railway, and a steel plate girder bridge of three spans over the Central Vermont Railway and Boston and Maine Railroad, on the State highway, known as Federal Street. The proposal amounted to \$104,021.25. Work about four-fifths completed. Expenditure during 1935, \$82,820.60.

Montague

July 16, 1935, contract made with Carlo Bianchi and Company, Inc., of Framingham, for constructing about 24,133 feet of State highway on Federal Street, Montague Road and new location; the surface consisting of bituminous macadam. The proposal amounted to \$165,138.50. Work about three-eighths completed. Expenditure during 1935, \$60,203.60.

Otis-Blandford

July 16, 1935, contract made with Kelleher Corporation, of Montague, for constructing about 14,130 feet of State highway on Monterey Road and 4,202 feet of State highway on Blandford Road in Otis, and about 192 feet of State highway on Otis Road in Blandford; the surface consisting of stone mixed in place with tar. The proposal amounted to \$59,718.50. Work about three-fourths completed. Expenditure during 1935, \$52,699.61.

Blandford

July 16, 1935, contract made with Lindholm Construction Co., Inc., of Pittsfield, for reconstructing about 10,310 feet of State highway on the Otis Road; the surface consisting of bituminous macadam; the proposal amounted to \$45,886.00. Work completed Oct. 26, 1935. Expenditure during 1935, \$44,751.99.

Millbury

Sept. 4, 1935, contract made with Arute Bros., Incorporated, of Bridgewater, for constructing and reconstructing about 11,558 feet of State highway on Uxbridge Road and new location, including the construction of a steel stringer bridge of one span with reinforced concrete deck over Blackstone River, and the construction of a steel stringer and reinforced concrete beam bridge of six spans over the New York, New Haven and Hartford Railroad. The surface of the roadway consisting of reinforced concrete pavement. The proposal amounted to \$359,716.10. Work about one-third completed. Expenditure during 1935, \$113,897.51.

Lowell-Dracut-Methuen

Oct. 2, 1935, contract made with Ellsworth H. Lewis, of Andover, for constructing sidewalks and miscellaneous work. The proposal amounted to \$50,774.05. Work about four-fifths completed. Expenditure during 1935, \$51,458.00.

Bourne

Oct. 8, 1935, contract made with Michael F. Roach & Sons, Inc., of East Bridgewater, for reconstructing about 1,175 feet of State highway on the road leading from the ramp near Sagamore Bridge; the surface consisting of penolithic pavement. The proposal amounted to \$10,393.75. Work about four-fifths completed. Expenditure during 1935, \$8,841.57.

EXPENDITURES FOR CONSTRUCTION OF STATE HIGHWAYS

The expenditures for the construction of State highways in various counties during the year were:—

Barnstable	\$159,686.26	Middlesex	\$366,413.38
Berkshire	102,984.87	Norfolk	513,756.86
Bristol	19,106.85	Plymouth	64,839.86
Essex	938,718.68	Suffolk	708,682.14
Franklin	209,048.88	Worcester	366,872.95
Hampden	65,307.28		
Hampshire	340.44	Total	\$3,515,758.45

Details of the foregoing expenditures follow:—

Barnstable County.— Bourne, \$148,669.11; Dennis, \$426.93; Yarmouth, \$10,590.22.

Berkshire County.—Cheshire, \$30.62; Great Barrington, \$62.12; Lenox, \$8,012.89; No. Adams, \$2,975.55; Otis, \$88,933.58; Richmond, \$327.01; Sheffield, \$2,530.39; Williamstown, \$112.71.

Bristol County.—Fairhaven, \$17,011.94; North Attleboro, \$439.09; Rehoboth, \$244.93; Seekonk, \$244.93; Swansea, \$278.10; Taunton, \$887.86.

Essex County.—Amesbury, \$1,318.31; Andover, \$175,227.86; Haverhill, \$50,693.16; Lynn, \$116.91; Newbury, \$325.81; Newburyport, \$710,075.14; Salisbury, \$961.49.

Franklin County.—Montague, \$180,148.23; Orange, \$28,900.65.

Hampden County.—Blandford, \$618.66; Brimfield, \$52.27; Southwick, \$82.22; Westfield, \$64,554.13.

Hampshire County.—Huntington, \$340.44.

Middlesex County.—Arlington, \$97,509.64; Belmont, \$13,935.70; Billerica, \$34,677.63; Cambridge, \$22,422.93; Chelmsford, \$59,708.96; Concord, \$2,812.45; Framingham, \$34,555.62; Lexington, \$324.18; Medford, \$32.33; Natick, \$44,098.71; Newton, \$56,206.85; Tyngsborough, \$128.38.

Norfolk County.—Bellingham, \$210.71; Brookline, \$162,429.52; Cohasset, \$4,206.20; Dedham, \$235,560.55; Foxborough, \$249.93; Needham, \$2,449.26; Norwood, \$1,796.20; Stoughton, \$1,004.65; Wellesley, \$104,435.26; Westwood, \$1,414.58.

Plymouth County.—Hingham, \$7,256.92; Marshfield, \$4,536.13; Scituate, \$11,176.50; Wareham, \$41,870.31.

Suffolk County.—Boston, \$238,315.95; Revere, \$470,366.19.

Worcester County.—Ashburnham, \$305.40; Athol, \$127,366.98; Auburn, \$4,898.52; Charlton, \$251.30; Dudley, \$612.31; Millbury, \$114,734.63; Northboro, \$13,755.60; Oxford, \$367.39; Southborough, \$489.85; Shrewsbury, \$1,867.02; Sterling, \$434.69; Sturbridge, \$676.97; Uxbridge, \$363.79; Webster, \$428.62; Worcester, \$100,319.88.

Fore River Bridge, Quincy \$1,014,660.38

Total Construction Expenditures \$4,530,418.83

HIGHWAY IMPROVEMENTS AUTHORIZED BY SPECIAL ACTS

In accordance with the provisions of Chapter 380 of the Acts of 1934, as amended by Chapter 368 of the Acts of 1935, the following contract was entered into:—

Boston-Brookline

Sept. 24, 1935, contract made with Coleman Bros. Corporation, of Boston, for constructing a highway grade separation, including the construction of a steel rigid frame bridge encased in concrete with stone facing in Boston over Huntington Avenue, and two reinforced concrete bridges over Muddy River in Boston and Brookline; the surface consisting of bituminous concrete. The proposal amounted to \$344,891.00. Work about one-seventh completed. Expenditure during 1935, \$51,000.42.

In accordance with the provisions of Chapter 341 of the Acts of 1934, the following contract was entered into:

Boston

Sept. 24, 1935, contract made with J. J. Callahan, of Boston, for constructing a traffic circle; the surface consisting of penolithic pavement. The proposal amounted to \$14,898.15. Work practically completed. Expenditure during 1935, \$14,445.59.

In accordance with the provisions of Chapter 249 of the Acts of 1935, the following contract was entered into:

Rutland

Nov. 12, 1935, contract made with the Middlesex Construction Company, of Framingham, for construction about 6,410 square yards of mixed in place surface and about 3,310 square yards of premixed surface on the grounds of the Rutland Sanatorium. The proposal amounted to \$10,009.00. Work not yet commenced.

TRAFFIC CONTROL SIGNALS

The following contracts were entered into during the year for furnishing and installing traffic control signals in various municipalities:—

Newburyport

Dec. 24, 1934, contract made with the Municipal Signal & Supply Company, of Boston. The proposal amounted to \$582.25. Work completed Mar. 27, 1935. Expenditure during 1935, \$582.25.

Auburn

Dec. 26, 1934, contract made with the Municipal Signal & Supply Company, of Boston. The proposal amounted to \$2,190.99. Work completed Mar. 8, 1935. Expenditure during 1935, \$2,190.99.

Revere

Dec. 26, 1934, contract made with the Municipal Signal & Supply Company, of Boston. The proposal amounted to \$1,639.04. Work completed July 22, 1935. Expenditure during 1935, \$1,639.04.

Brookline

Jan. 8, 1935, contract made with the Municipal Signal & Supply Company, of Boston. The proposal amounted to \$9,121.07. Work completed Mar. 26, 1935. Expenditure during 1935, \$9,121.07.

Concord

Feb. 5, 1935, contract made with the Municipal Signal & Supply Company, of Boston. The proposal amounted to \$2,837.06. Work completed April 3, 1935. Expenditure during 1935, \$2,837.06.

West Boylston

April 16, 1935, contract made with the Municipal Signal & Supply Company, of Boston. The proposal amounted to \$1,705.89. Work completed May 9, 1935. Expenditure during 1935, \$1,705.89.

Concord-Lincoln

April 16, 1935, contract made with the Eagle Signal Corporation, of Newton. The proposal amounted to \$8,514.86. Work completed June 15, 1935. Expenditure during 1935, \$8,567.97.

Arlington-Belmont

April 23, 1935, contract made with The Gamewell Company, of Newton. The proposal amounted to \$2,309.00. Work completed June 20, 1935. Expenditure during 1935, \$2,309.00.

Arlington-Belmont-Lincoln-Lexington

May 14, 1935, contract made with the Municipal Signal & Supply Company, of Boston. The proposal amounted to \$10,213.23. Work completed June 22, 1935. Expenditure during 1935, \$10,213.23.

Boston-Dedham

Nov. 5, 1935, contract made with the Eagle Signal Corporation, of Springfield. The proposal amounted to \$5,196.15. Work just commenced.

Medford

Nov. 26, 1935, contract made with the Municipal Signal & Supply Company, of Boston. The proposal amounted to \$1,153.00. Work not yet commenced.

ELIMINATION OF GRADE CROSSINGS

The following contracts were entered into during the year under the provisions of Section 70, Chapter 159, of the General Laws, Ter. Ed., as amended by Section 1, Chapter 357, of the Acts of 1934: —

Waltham

Nov. 12, 1935, contract made with H. L. Hauser Co., Inc., of Boston, for constructing the substructure for a steel stringer bridge over the Boston and Maine Railroad, and approaches thereto; the surface of the approaches consisting of two reinforced cement concrete parallel roadways each 30 feet in width, and the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$147,951.10. Work just commenced. Expenditure during 1935, \$867.00.

Waltham

Nov. 12, 1935, contract made with The Boston Bridge Works, Incorporated, of Cambridge, for furnishing, fabricating and erecting the superstructure of a steel stringer bridge over the Boston and Maine Railroad. The proposal amounted to \$36,017.43. Work not yet commenced.

Weymouth

Nov. 26, 1935, contract made with Bradford Weston, of Hingham, for constructing a steel plate girder bridge over the New York, New Haven & Hartford Railroad, and the approaches thereto, on Main Street; the surface of the approaches consisting of bituminous macadam and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$94,627.90. Work not yet commenced.

Newbury-Newburyport

Nov. 26, 1935, contract made with M. McDonough Co., of Saugus, for constructing a steel plate girder bridge over the Boston and Maine Railroad on the Newburyport Turnpike, and approaches thereto; the surface of the approaches consisting of two reinforced cement concrete parallel roadways, and the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$262,428.20. Work not yet commenced.

CONTRACTS

EMERGENCY PUBLIC WORKS

Holyoke

Jan. 8, 1935, contract made with Daniel O'Connell's Sons, Inc., of Holyoke, for constructing a section of highway and a steel plate girder bridge on Northampton Street; the surface consisting of reinforced cement concrete. The proposal amounted to \$153,945.55. Work completed October 1, 1935. Expenditure during 1935, \$144,834.95.

Braintree-Quincy

Jan. 8, 1935, contract made with Bradford Weston, of Hingham, for reconstructing 17,154 feet of State highway on Washington Street and Franklin Street in Braintree and Willard Street in Quincy; the surface consisting of bituminous concrete. The proposal amounted to \$135,896.55. Work completed Nov. 12, 1935. Expenditure during 1935, \$176,060.47.

The following contracts were entered into for secondary roads in various municipalities; the Federal Government paying 100% of the cost of construction:

Westfield

Mar. 5, 1935, contract made with The Lane Construction Corporation, of Meriden, Conn., for constructing about 3,575 feet of highway on Main Street; the surface consisting of reinforced cement concrete. The proposal amounted to \$48,377.25. Work completed July 12, 1935. Expenditure during 1935, \$52,001.11.

Haverhill

May 21, 1935, contract made with R. G. Watkins & Son, Inc., of Amesbury, for reconstructing about 4,625 feet of highway on Kenoza Avenue; the surface on about 750 feet consisting of reinforced cement concrete, and the surface of the balance of the highway consisting of bituminous macadam. The proposal amounted to \$37,539.85. Work completed July 22, 1935. Expenditure during 1935, \$40,797.44.

Billerica-Chelmsford

May 28, 1935, contract made with Carlo Bianchi and Company, Inc., of Framingham, for constructing about 14,973 feet of highway on Chelmsford Road in Billerica and on Billerica Road in Chelmsford; the surface consisting of penolithic pavement. The proposal amounted to \$78,471.95. Work completed Sept. 21, 1935. Expenditure during 1935, \$85,169.79.

Andover

May 28, 1935, contract made with the Central Construction Co., of Lawrence, for constructing about 24,876 feet of highway on Lowell Street; the surface consisting of penolithic pavement. The proposal amounted to \$139,642.60. Work completed Oct. 8, 1935. Expenditure during 1935, \$165,131.17.

EXPENDITURES FOR EMERGENCY PUBLIC WORKS CONSTRUCTION

Chapter 365, Acts of 1933

Project	City or Town	Amount
R 1	Lynn-Revere	\$748,303 70
R 4	Agawam	5,776 96
R 5-1	Arlington-Belmont-Lexington	137,676 39
R 5-2	Lexington-Lincoln	218,762 69
R 5 3	Lexington	5,832 82
R 7	Braintree-Quincy	156,268 73
R 8	Brookline	90,555 54
R 12	Lawrence-North Andover	10,811 28
R 13	Otis	21,186 96
R 14	Palmer	9,124 71
R 16	Revere (North Shore Road)	21,400 00
R 17	Saugus	2,427 93
R 22	Blandford-Russell	71,822 05
R 26	Charlemont	328,433 57
R 27	Charlton-Sturbridge	33,916 77
R 29-1	Concord-Lincoln	91,164 65
R 29-2	Concord By-Pass	170,954 63
R 32	Easton-Raynham-Taunton	43,509 85
R 33	Fitchburg-Ashby	62,043 35
R 34	Essex-Gloucester	66,165 69
R 35	Great Barrington	4,250 61
R 38	Hatfield-Northampton	37,794 03
R 39	Revere (Route 1A)	288,146 15
R 40	Richmond	10,125 57
R 43	Sterling-Leominster	37,639 71
R 44	Brimfield-Sturbridge	48,624 77
R 48	Holyoke	156,347 90
R 49	Charlton-East Brookfield	58,069 65
R 51	Braintree-Randolph	131,476 52
R 54	Dennis-Yarmouth	168,840 55
Total		\$3,237,453 73

CHAPTER 464, BOND ISSUE

Class 1 — Cities and Towns

The expenditures during the year in various counties were: —

Barnstable	\$30,161.92	Middlesex	\$310,394.49
Berkshire	83,586.74	Nantucket	3,016.12
Bristol	79,066.63	Norfolk	161,634.80
Dukes	5,024.82	Plymouth	54,498.17
Essex	169,476.38	Suffolk	459,317.51
Franklin	64,756.49	Worcester	259,761.40
Hampden	161,852.02	Engineering	171,757.33
Hampshire	60,892.00		
Total			\$2,075,197.32

Details of the foregoing expenditures follow:—

Barnstable County.—Barnstable, \$5,668.23; Bourne, \$2,340.10; Brewster, \$2,000; Chatham, \$1,421.39; Dennis, \$3,900.00; Eastham, \$2,100.00; Falmouth, \$——; Harwich, \$1,490.73; Mashpee, \$1,350.00; Orleans, \$901.37; Provincetown, \$1,161.39; Sandwich, \$3,350.00; Truro, \$1,500.00; Wellfleet, \$1,800.00; Yarmouth, \$1,178.71.

Berkshire County.—Adams, \$2,929.45; Alford, \$950.00; Becket, \$2,900.00; Cheshire, \$2,100.00; Clarksburg, \$700.00; Dalton, \$2,028.08; Egremont, \$1,600.00; Florida, \$2,150.00; Great Barrington, \$2,357.43; Hancock, \$1,500.00; Hinsdale, \$1,750.00; Lanesboro, \$2,100.00; Lee, \$1,334.73; Lenox, \$1,594.73; Monterey, \$2,600.00; Mt. Washington, \$1,000; New Ashford, \$550.00; New Marlboro, \$4,250.00; North Adams, \$6,378.93; Otis, \$2,250.00; Peru, \$1,850.00; Pittsfield, \$16,363.34; Richmond, \$1,600.00; Sandisfield, \$3,950.00; Savoy, \$2,800.00; Sheffield, \$3,850.00; Stockbridge, \$1,300.05; Tyringham, \$1,250.00; Washington, \$2,550.00; West Stockbridge, \$1,800.00; Williamstown, \$——; Windsor, \$3,250.00.

Bristol County.—Acushnet, \$970.71; Attleboro, \$——; Berkley, \$2,100.00; Dartmouth, \$3,033.46; Dighton, \$970.71; Easton, \$1,525.40; Fairhaven, \$3,068.13; Fall River, \$——; Freetown, \$2,350.00; Mansfield, \$2,010.74; New Bedford, \$32,588.00; North Attleboro, \$2,790.78; Norton, \$2,850.00; Raynham, \$2,250.00; Rehoboth, \$5,450.00; Seekonk, \$1,334.72; Somerset, \$3,068.13; Swansea, \$1,230.71; Taunton, \$9,984.41; Westport, \$1,490.73.

P. D. 54

Dukes County.—Chilmark, \$700.00; Edgartown, \$1,144.06; Gay Head, \$——; Gosnold, \$——; Oak Bluffs, \$1,230.71; Tisbury, \$1,300.05; West Tisbury, \$650.00.

Essex County.—Amesbury, \$2,669.44; Andover, \$4,593.52; Beverly, \$11,215.13; Boxford, \$2,650.00; Danvers, \$3,622.82; Essex, \$520.02; Georgetown, \$1,750.00; Gloucester, \$10,209.76; Groveland, \$1,500.00; Hamilton, \$1,404.05; Haverhill, \$14,785.94; Ipswich, \$1,820.07; Lawrence, \$27,179.79; Lynn, \$36,592.16; Lynnfield, \$970.71; Manchester, \$2,773.45; Marblehead, \$4,992.20; Merrimac, \$1,550.00; Methuen, \$5,460.22; Middleton, \$1,500.00; Nahant, \$——; Newbury, \$1,900.00; Newburyport, \$3,622.82; North Andover, \$2,409.43; Peabody, \$6,448.26; Rockport, \$1,525.41; Rowley, \$1,550.00; Salem, \$——; Salisbury, \$901.37; Saugus, \$4,194.84; Swampscott, \$6,396.27; Topsfield, \$918.70; Wenham, \$——; West Newbury, \$1,850.00.

Franklin County.—Ashfield, \$4,000.00; Bernardston, \$2,000.00; Buckland, \$2,250.00; Charlemont, \$2,450.00; Colrain, \$4,200.00; Conway, \$3,600.00; Deerfield, \$3,700.00; Erving, \$554.69; Gill, \$1,700.00; Greenfield, \$7,245.63; Hawley, \$2,450.00; Heath, \$2,650.00; Leverett, \$1,900.00; Leyden, \$1,950.00; Monroe, \$——; Montague, \$2,617.44; New Salem, \$3,250.00; Northfield, \$3,300.00; Orange, \$1,438.73; Rowe, \$2,000.00; Shelburne, \$2,400.00; Shutesbury, \$1,900.00; Sunderland, \$——; Warwick, \$2,800.00; Wendell, \$2,400.00; Whately, \$2,000.00.

Hampden County.—Agawam, \$2,461.43; Blandford, \$3,900.00; Brimfield, \$3,000.00; Chester, \$3,400.00; Chicopee, \$11,041.79; East Longmeadow, \$1,040.04; Granville, \$3,650.00; Hampden, \$1,700.00; Holland, \$1,550.00; Holyoke, \$22,291.58; Longmeadow, \$3,068.12; Ludlow, \$2,201.42; Monson, \$5,050.00; Montgomery, \$1,350.00; Palmer, \$2,288.10; Russell, \$1,022.72; Southwick, \$2,500.00; Springfield, \$73,201.67; Tolland, \$2,000.00; Wales, \$1,250.00; West Springfield, \$6,500.27; Westfield, \$5,234.88; Wilbraham, \$2,150.00.

Hampshire County.—Amherst, \$2,496.10; Belchertown, \$5,450.00; Chesterfield, \$2,950.00; Cummington, \$2,450.00; Easthampton, \$2,790.78; Enfield, \$1,850.00; Goshen, \$1,400.00; Granby, \$2,400.00; Greenwich, \$1,950.00; Hadley, \$2,950.00; Hatfield, \$2,300.00; Huntington, \$2,050.00; Middlefield, \$2,050.00; Northampton, \$7,106.96; Pelham, \$1,550.00; Plainfield, \$2,450.00; Prescott, \$1,950.00; South Hadley, \$2,270.76; Southampton, \$2,800.00; Ware, \$1,577.40; Westhampton, \$2,500.00; Williamsburg, \$2,200.00; Worthington, \$3,400.00.

Middlesex County.—Acton, \$2,900.00; Arlington, \$15,479.30; Ashby, \$2,800.00; Ashland, \$1,900.00; Ayer, \$953.38; Bedford, \$1,800.00; Belmont, \$12,272.50; Billerica, \$2,478.77; Boxboro, \$1,150.00; Burlington, \$1,700.00; Cambridge, \$47,703.29; Carlisle, \$2,100.00; Chelmsford, \$——; Concord, \$——; Dracut, \$3,100.00; Dunstable, \$1,850.00; Everett, \$18,703.43; Framingham, \$9,117.71; Groton, \$1,352.06; Holliston, \$2,500.00; Hopkinton, \$3,300.00; Hudson, \$1,993.41; Lexington, \$5,546.89; Lincoln, \$832.03; Littleton, \$2,100.00; Lowell, \$28,393.17; Malden, \$——; Marlborough, \$——; Maynard, \$1,906.74; Medford, \$21,026.20; Melrose, \$——; Natick, \$5,321.56; Newton, \$39,157.60; North Reading, \$1,650.00; Pepperell, \$3,450.00; Reading, \$4,212.17; Sherborn, \$2,150.00; Shirley, \$2,300.00; Somerville, \$——; Stoneham, \$3,813.49; Stowe, \$2,150.00; Sudbury, \$3,200.00; Tewksbury, \$2,850.00; Townsend, \$3,500.00; Tyngsboro, \$2,000.00; Wakefield, \$5,633.57; Waltham, \$——; Watertown, \$13,901.90; Wayland, \$——; Westford, \$4,250.00; Weston, \$2,496.10; Wilmington, \$——; Winchester, \$7,696.32; Woburn, \$5,702.90.

Nantucket County.—Nantucket, \$3,016.12.

Norfolk County.—Avon, \$554.69; Bellingham, \$2,200.00; Braintree, \$7,020.29; Brookline, \$37,718.88; Canton, \$2,270.76; Cohasset, \$2,461.44; Dedham, \$6,448.27; Dover, \$1,196.05; Foxboro, \$1,542.73; Franklin, \$2,444.10; Holbrook, \$936.04; Medfield, \$2,050.00; Medway, \$2,250.00; Millis, \$2,100.00; Milton, \$9,221.71; Needham, \$6,170.92; Norfolk, \$2,050.00; Norwood, \$6,638.94; Plainville, \$1,600.00; Quincy, \$31,998.65; Randolph, \$1,646.73; Sharon, \$1,594.73; Stoughton, \$2,496.10; Walpole, \$3,709.49; Wellesley, \$9,273.71; Westwood, \$1,282.72; Weymouth, \$11,804.48; Wrentham, \$953.37.

Plymouth County.—Abington, \$1,594.73; Bridgewater, \$1,629.40; Brockton, \$——; Carver, \$3,350.00; Duxbury, \$1,716.07; East Bridgewater, \$1,352.06; Halifax, \$1,700.00; Hanover, \$1,005.38; Hanson, \$1,800.00; Hingham, \$3,796.16; Hull, \$——; Kingston, \$1,126.71; Lakeville, \$2,100.00; Marion, \$1,248.05; Marshfield, \$1,802.74; Mattapoisett, \$953.37; Middleborough, \$2,496.10; Norwell, \$2,350.00; Pembroke, \$2,450.00, Plymouth; \$6,344.26; Plympton, \$1,500.00; Rochester, \$2,500.00; Rockland, \$2,270.76; Scituate, \$3,050.79; Wareham, \$3,224.13; West Bridgewater, \$849.37; Whitman, \$2,288.09.

Suffolk County.—Boston, \$439,799.38; Chelsea, \$13,104.54; Revere, \$——; Winthrop, \$6,413.59.

Worcester County.—Ashburnham, \$3,750.00; Athol, \$3,102.79; Auburn, \$1,681.40; Barre, \$5,500.00; Berlin, \$1,950.00; Blackstone, \$710.70; Bolton, \$2,650.00; Boylston, \$2,000.00; Brookfield, \$1,850.00; Charlton, \$5,500.00; Clinton, \$——; Dana, \$2,150.00; Douglas, \$3,500.00; Dudley, \$3,150.00; East Brookfield, \$950.00; Fitchburg, \$13,624.56; Gardner, \$6,170.92; Grafton, \$3,400.00; Hardwick, \$4,800.00; Harvard, \$2,800.00; Holden, \$3,850.00; Hopedale, \$——; Hubbardston, \$3,750.00; Lancaster, \$2,900.00; Leicester, \$3,300.00; Leominster, \$7,158.96; Lunenburg, \$3,300.00; Mendon, \$1,800.00; Milford, \$4,142.84; Millbury, \$1,698.74; Millville, \$329.35; New Braintree, \$2,450.00; North Brookfield, \$3,450.00; Northborough, \$——; Northbridge, \$2,686.78; Oakham, \$2,250.00; Oxford, \$3,300.00; Paxton, \$1,450.00; Petersham, \$3,500.00; Phillipston, \$2,050.00; Princeton, \$3,600.00; Royalston, \$3,350.00; Rutland, \$3,400.00; Shrewsbury, \$2,374.76; Southborough, \$2,300.00; Southbridge, \$——; Spencer, \$5,000.00; Sterling, \$3,650.00; Sturbridge, \$3,500.00; Sutton, \$4,200.00; Templeton, \$3,150.00; Upton, \$3,000.00; Uxbridge, \$2,132.09; Warren, \$3,550.00; Webster, \$3,068.13; West Boylston, \$1,800.00; West Brookfield, \$2,650.00; Westborough, \$1,265.38; Westminster, \$3,850.00; Winchendon, \$1,577.40; Worcester, \$79,736.60.

CHAPTER 464 — BOND ISSUE

Class 2 — Cities and Towns

The expenditures during the year in various counties were: —

Berkshire	\$11,385.96	Middlesex	\$64,326.80
Bristol	39,547.99	Norfolk	11,157.16
Essex	45,542.79	Plymouth	46,946.44
Franklin	9,274.12	Suffolk	74,579.38
Hampden	17,897.90	Worcester	21,343.60
Hampshire	2.66		
			Total
			\$342,004.80

Details of the foregoing expenditures follow: —

Berkshire County.—Adams, \$11,385.96.

Bristol County.—Dartmouth, \$32,579.30; Somerset, \$6,968.69.

Essex County.—Lynn, \$1,350.46; Lynnfield, \$3,087.82; Merrimac, \$11,645.86; Salem, \$20,938.22; Swampscott, \$8,520.43.

Franklin County.—Greenfield, \$9,274.12.

Hampden County.—Agawam, \$7,376.62; West Springfield, \$10,510.64; Westfield, \$10.64.

Hampshire County.—South Hadley, \$2.66.

Middlesex County.—Framingham, \$34,210.58; Natick, \$9,333.93; Newton, \$20,782.29.

Norfolk County.—Dedham, \$11,157.16.

Plymouth County.—Abington, \$9.78; Bridgewater, \$1.06; Hull, \$4,562.97; Middleborough, \$1.06; Rockland, \$23,570.11; Whitman, \$18,801.46.

Suffolk County.—Boston, \$44,010.66; Chelsea, \$176.82; Revere, \$30,391.90.

Worcester County.—Northborough, \$1,368.23; West Boylston, \$9,984.99; Worcester, \$9,990.38.

CHAPTER 464 — BOND ISSUE

Class 3 — Highway Projects under the Hayden-Cartwright bill, so called.

No expenditures.

CHAPTER 464 — BOND ISSUE
Class 4 — Cities and Towns
Maintenance

The expenditures during the year in various counties were: —

Barnstable	\$21,463.09	Hampshire	\$18,548.57
Berkshire	46,569.63	Middlesex	350,578.91
Bristol	143,505.10	Norfolk	73,218.21
Dukes	1,946.26	Plymouth	30,045.23
Essex	159,362.47	Suffolk	37,574.08
Franklin	13,929.36	Worcester	76,771.45
Hampden	15,205.59		
		Total	\$1,393,329.03

Details of the foregoing expenditures follow: —

Barnstable County. — Barnstable, \$1,748.75; Bourne, \$2,632.30; Brewster, \$649.17; Chatham, \$218.18; Dennis, \$793.81; Eastham, \$1,228.25; Falmouth, \$2,000.15; Harwich, \$520.91; Mashpee, \$138.17; Orleans, \$365.71; Provincetown, \$423.02; Sandwich, \$6,123.46; Truro, \$497.43; Wellfleet, \$400.86; Yarmouth, \$3,722.92.

Berkshire County. — Adams, \$74.67; Alford, \$——; Becket, \$3,304.95; Cheshire, \$950.73; Clarksburg, \$1,659.85; Dalton, \$735.45; Egremont, \$502.70; Florida, \$9,634.69; Great Barrington, \$5,007.97; Hancock, \$845.63; Hinsdale, \$1,598.01; Lanesboro, \$1,407.57; Lee, \$1,563.16; Lenox, \$999.50; Monterey, \$——; Mt. Washington, \$——; New Ashford, \$193.70; New Marlborough, \$170.58; North Adams, \$2,602.97; Otis, \$909.78; Peru, \$——; Pittsfield, \$1,647.66; Richmond, \$369.06; Sandisfield, \$903.70; Savoy, \$295.65; Sheffield, \$1,493.34; Stockbridge, \$236.57; Tyringham, \$——; Washington, \$428.81; West Stockbridge, \$32.78; Williamstown, \$3,726.24; Windsor, \$5,273.91.

Bristol County. — Acushnet, \$20,738.01; Attleboro, \$17,679.94; Berkley, \$236.27; Dartmouth, \$1,222.96; Dighton, \$22,703.44; Easton, \$1,866.66; Fairhaven, \$7,950.05; Fall River, \$——; Freetown, \$966.68; Mansfield, \$403.60; New Bedford, \$——; North Attleboro, \$426.62; Norton, \$1,113.66; Raynham, \$7,374.04; Rehoboth, \$8,462.15; Seekonk, \$38,671.05; Somerset, \$6,451.60; Swansea, \$1,149.42; Taunton, \$2,071.76; Westport, \$4,017.19.

Dukes County. — Chilmark, \$490.05; Edgartown, \$475.00; Gay Head, \$368.08; Gosnold, \$——; Oak Bluffs, \$152.73; Tisbury, \$85.75; West Tisbury, \$374.65.

Essex County. — Amesbury, \$834.05; Andover, \$4,105.98; Beverly, \$1,405.46; Boxford, \$——; Danvers, \$13,454.38; Essex, \$213.42; Georgetown, \$——; Gloucester, \$12,459.23; Groveland, \$602.38; Hamilton, \$12,201.99; Haverhill, \$2,700.44; Ipswich, \$9,223.75; Lawrence, \$274.30; Lynn, \$11,136.62; Lynnfield, \$2,161.76; Manchester, \$——; Marblehead, \$——; Merrimac, \$705.27; Methuen, \$1,907.73; Middleton, \$25,676.44; Nahant, \$——; Newbury, \$3,842.24; Newburyport, \$1,614.23; North Andover, \$4,303.54; Peabody, \$8,269.79; Rockport, \$211.85; Rowley, \$1,879.39; Salem, \$13,371.18; Salisbury, \$2,322.76; Saugus, \$14,142.94; Swampscott, \$6,256.99; Topsfield, \$2,269.51; Wenham, \$274.41; West Newbury, \$1,540.44.

Franklin County. — Ashfield, \$489.18; Bernardston, \$794.44; Buckland, \$390.48; Charlemont, \$787.93; Colrain, \$594.31; Conway, \$356.94; Deerfield, \$940.99; Erving, \$920.74; Gill, \$272.37; Greenfield, \$1,541.72; Hawley, \$——; Heath, \$——; Leverett, \$——; Leyden, \$——; Monroe, \$——; Montague, \$1,067.62; New Salem, \$443.58; Northfield, \$1,206.90; Orange, \$630.99; Rowe, \$——; Shelburne, \$1,376.68; Shutesbury, \$489.64; Sunderland, \$1,335.03; Warwick, \$——; Wendell, \$——; Whately, \$289.82.

Hampden County. — Agawam, \$2,635.84; Blandford, \$366.54; Brimfield, \$1,903.48; Chester, \$659.52; Chicopee, \$1,942.44; East Longmeadow, \$340.85; Granville, \$——; Hampden, \$——; Holland, \$——; Holyoke, \$430.91; Longmeadow, \$——; Ludlow, \$——; Monson, \$668.61; Montgomery, \$——; Palmer, \$1,534.19; Russell, \$1,493.16; Southwick, \$113.23; Springfield, \$——; Tolland, \$——; Wales, \$92.99; West Springfield, \$906.47; Westfield, \$1,000.64; Wilbraham, \$1,116.72.

Hampshire County.—Amherst, \$1,016.88; Belchertown, \$828.30; Chesterfield, \$——; Cummington, \$1,680.22; Easthampton, \$749.58; Enfield, \$——; Goshen, \$727.09; Granby, \$1,911.15; Greenwich, \$——; Hadley, \$922.31; Hatfield, \$172.14; Huntington, \$804.89; Middlefield, \$——; Northampton, \$1,415.15; Pelham, \$805.78; Plainfield, \$——; Prescott, \$——; South Hadley, \$2,673.69; Southampton, \$1,383.38; Ware, \$1,681.53; Westhampton, \$——; Williamsburg, \$840.16; Worthington, \$936.32.

Middlesex County.—Acton, \$32,449.11; Arlington, \$589.03; Ashby, \$23,319.88; Ashland, \$18,259.30; Ayer, \$64.69; Bedford, \$——; Belmont, \$343.41; Billerica, \$4,746.96; Boxboro, \$6,818.99; Burlington, \$1,030.40; Cambridge, \$25.93; Carlisle, \$——; Chelmsford, \$4,076.47; Concord, \$20,718.18; Dracut, \$21,713.09; Dunstable, \$——; Everett, \$——; Framingham, \$8,855.07; Groton, \$32,924.84; Holliston, \$12,205.23; Hopkinton, \$——; Hudson, \$3,329.10; Lexington, \$21,202.72; Lincoln, \$4,624.41; Littleton, \$26,200.49; Lowell, \$53.50; Malden, \$——; Marlborough, \$28,593.20; Maynard, \$——; Medford, \$——; Melrose, \$20.80; Natick, \$1,309.53; Newton, \$3,098.22; North Reading, \$651.10; Pepperell, \$28.00; Reading, \$3,476.81; Sherborn, \$——; Shirley, \$738.71; Somerville, \$549.95; Stoneham, \$1,661.92; Stowe, \$——; Sudbury, \$1,564.96; Tewksbury, \$1,062.61; Townsend, \$3,988.57; Tyngsboro, \$10,284.72; Wakefield, \$——; Waltham, \$243.18; Watertown, \$3,720.31; Wayland, \$7,815.52; Westford, \$21,421.17; Weston, \$2,216.36; Wilmington, \$1,615.86; Winchester, \$240.54; Woburn, \$12,726.07.

Norfolk County.—Avon, \$215.54; Bellingham, \$399.03; Braintree, \$7,927.49; Brookline, \$1,665.51; Canton, \$1,864.46; Cohasset, \$508.22; Dedham, \$2,918.68; Dover, \$42.75; Foxborough, \$2,710.42; Franklin, \$446.23; Holbrook, \$8,878.30; Medfield, \$——; Medway, \$——; Millis, \$——; Milton, \$3,590.36; Needham, \$1,797.14; Norfolk, \$109.11; Norwood, \$8,502.80; Plainville, \$1,099.55; Quincy, \$3,358.29; Randolph, \$1,370.30; Sharon, \$380.29; Stoughton, \$4,227.62; Walpole, \$1,897.33; Wellesley, \$4,554.68; Westwood, \$6,601.58; Weymouth, \$4,846.77; Wrentham, \$3,305.76.

Plymouth County.—Abington, \$850.50; Bridgewater, \$595.00; Brockton, \$4,632.36; Carver, \$——; Duxbury, \$1,059.31; East Bridgewater, \$543.46; Halifax, \$——; Hanover, \$6,666.51; Hanson, \$——; Hingham, \$3,287.49; Hull, \$29.02; Kingston, \$756.25; Lakeville, \$1,667.50; Marion, \$954.71; Marshfield, \$442.24; Mattapoisett, \$379.43; Middleborough, \$2,502.41; Norwell, \$121.31; Pembroke, \$330.41; Plymouth, \$828.54; Plympton, \$——; Rochester, \$318.22; Rockland, \$202.90; Scituate, \$991.32; Wareham, \$999.70; West Bridgewater, \$1,186.60; Whitman, \$700.04.

Suffolk County.—Boston, \$9,809.69; Chelsea, \$38.50; Revere, \$27,725.89.

Worcester County.—Ashburnham, \$497.76; Athol, \$671.78; Auburn, \$1,783.17; Barre, \$691.54; Berlin, \$——; Blackstone, \$257.18; Bolton, \$——; Boylston, \$——; Brookfield, \$240.95; Charlton, \$3,087.56; Clinton, \$32.00; Dana, \$——; Douglas, \$171.91; Dudley, \$189.88; East Brookfield, \$300.29; Fitchburg, \$518.55; Gardner, \$288.68; Grafton, \$759.94; Hardwick, \$45.79; Harvard, \$23,776.00; Holden, \$883.56; Hopedale, \$3.80; Hubbardston, \$——; Lancaster, \$2,216.39; Leicester, \$851.82; Leominster, \$1,928.01; Lunenburg, \$649.37; Mendon, \$571.73; Milford, \$322.56; Millbury, \$561.03; Millville, \$65.18; New Braintree, \$44.20; North Brookfield, \$319.50; Northboro, \$1,305.40; Northbridge, \$847.91; Oakham, \$382.09; Oxford, \$683.81; Paxton, \$1,144.43; Petersham, \$799.43; Phillipston, \$575.12; Princeton, \$54.20; Royalston, \$——; Rutland, \$2,268.39; Shrewsbury, \$4,264.93; Southborough, \$2,182.33; Southbridge, \$172.16; Spencer, \$1,044.91; Sterling, \$2,003.09; Sturbridge, \$1,608.25; Sutton, \$614.98; Templeton, \$1,584.39; Upton, \$286.07; Uxbridge, \$1,520.97; Warren, \$898.49; Webster, \$115.77; West Boylston, \$2,200.51; West Brookfield, \$265.94; Westboro, \$2,680.00; Westminster, \$1,478.96; Winchendon, \$553.57; Worcester, \$3,505.22.

CHAPTER 464 — CLASS 4
Miscellaneous Expenditures
Snow Removal

Truck repairs	\$17,030.29	
Truck operation	7,849.79	
Truck plow repairs	25,762.15	
Tractor repairs	12,581.11	
Tractor operation	7,997.44	
Tractor plow repairs	20,486.20	
Snow fence	564.06	
Expenditures under towns	69,793.46	
		<hr/>
		\$162,064.50

Traffic

Direction Signs	\$27,782.68	
Warning signs	19,828.63	
Control signals	21,715.14	
Traffic survey	51,409.32	
Regulatory signs	2,488.76	
White lines	2,080.95	
		<hr/>
		\$125,305.48
Maps and detour bulletins	398.15	
Roadside planting	9,365.50	
Laboratory	4,760.65	
Paint mfg.	1,746.87	
Engineering	130,987.23	
Machinery	103,886.30	
Somerset Bridge	3,344.04	
Newburyport Bridge	11,258.88	
Fairhaven-New Bedford Bridge	5,140.32	
Quincy-Weymouth Bridge	4,028.52	
Geodetic survey	2,432.25	
Grade crossings eng.	1,956.89	
		<hr/>
		\$566,675.58

CHAPTER 464 — BOND ISSUE

Class 5 — Development of Rivers and Harbors

The expenditures during the year 1935 were as follows: —

Boston Harbor

Commonwealth Pier, No. 5	\$16,434.24	
		<hr/>
		\$16,434.24

Outside Boston Harbor

Menamsha Creek-Chilmark	\$23,640.97	
Seituate Harbor	11,491.67	
Manchester Harbor	17,546.79	
Smiths Cove, Gloucester	16,054.53	
Plymouth Harbor	28,143.46	
Onset Bay, Wareham	313.55	
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		\$97,190.97

Total		<hr/>	\$113,625.21
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MAINTENANCE AND REPAIR OF STATE HIGHWAYS

(Section 13, Chapter 81, General Laws)

The expenditures during the year in various counties were: —

Barnstable	\$76,926.63	Hampshire	\$50,116.49
Berkshire	310,169.22	Middlesex	1,162,490.96
Bristol	346,640.59	Nantucket	129.05
Dukes	6,084.61	Norfolk	277,859.90
Essex	605,654.30	Plymouth	158,198.42
Franklin	75,336.64	Suffolk	336,762.91
Hampden	267,955.84	Worcester	296,103.90

Total \$3,970,429.46

Details of the foregoing expenditures follow:—

Barnstable County.—Barnstable, \$4,499.77; Bourne, \$20,546.21; Brewster, \$1,239.55; Chatham, \$1,605.14; Dennis, \$947.73; Eastham, \$2,439.36; Falmouth, \$8,862.98; Harwich, \$901.45; Mashpee, \$1,435.81; Orleans, \$938.25; Provincetown, \$1,723.54; Sandwich, \$8,652.45; Truro, \$2,585.74; Wellfleet, \$1,260.85; Yarmouth, \$19,287.80.

Berkshire County.—Adams, \$1,587.23; Becket, \$10,153.18; Cheshire, \$172,736.79; Clarksburg, \$1,792.80; Dalton, \$2,109.48; Egremont, \$1,540.05; Florida, \$4,586.29; Great Barrington, \$8,278.75; Hancock, \$2,109.67; Hinsdale, \$2,018.16; Lanesborough, \$2,915.70; Lee, \$5,722.41; Lenox, \$2,246.70; New Ashford, \$316.38; New Marlborough, \$19.25; No. Adams, \$50,249.92; Otis, \$1,977.75; Pittsfield, \$4,399.95; Richmond, \$1,416.09; Sandisfield, \$1,748.98; Savoy, \$906.95; Sheffield, \$8,584.02; Stockbridge, \$4,510.63; Washington, \$1,003.60; West Stockbridge, \$154.29; Williamstown, \$13,632.66; Windsor, \$3,451.54.

Bristol County.—Acushnet, \$1,798.45; Attleboro, \$2,508.85; Berkley, \$1,960.35; Dartmouth, \$3,678.09; Dighton, \$38,229.46; Easton, \$5,581.79; Fairhaven, \$9,968.75; Freetown, \$3,982.92; Mansfield, \$2,380.90; North Attleboro, \$3,025.16; Norton, \$6,816.40; Raynham, \$17,175.51; Rehoboth, \$11,830.29; Seekonk, \$28,809.25; Somerset, \$51,479.80; Swansea, \$80,977.66; Taunton, \$15,657.31; Westport, \$60,779.65.

Dukes County.—Chilmark, \$1,427.58; Edgartown, \$1,265.65; Gay Head, \$633.88; Oak Bluffs, \$290.79; Tisbury, \$571.59; West Tisbury, \$1,895.12.

Essex County.—Amesbury, \$3,905.88; Andover, \$15,510.22; Beverly, \$6,531.93; Danvers, \$50,095.18; Essex, \$6,345.22; Gloucester, \$36,915.68; Groveland, \$1,562.01; Hamilton, \$25,599.51; Haverhill, \$5,735.93; Ipswich, \$10,367.35; Lawrence, \$1,284.82; Lynn, \$29,839.32; Lynnfield, \$3,612.29; Merrimac, \$1,613.42; Methuen, \$166,369.48; Middleton, \$55,561.48; Newbury, \$10,518.37; Newburyport, \$6,194.29; North Andover, \$17,165.88; Peabody, \$10,805.69; Rockport, \$702.93; Rowley, \$16,983.86; Salem, \$37,028.13; Salisbury, \$5,844.03; Saugus, \$31,109.30; Swampscott, \$31,503.40; Topsfield, \$4,527.15; Wenham, \$1,709.67; West Newbury, \$10,711.88.

Franklin County.—Ashfield, \$1,478.95; Bernardston, \$1,801.07; Buckland, \$3,910.16; Charlemont, \$5,154.32; Colrain, \$1,007.74; Conway, \$1,685.40; Deerfield, \$32,146.12; Erving, \$3,468.16; Gill, \$1,262.37; Greenfield, \$5,088.45; Montague, \$1,143.77; New Salem, \$1,286.09; Northfield, \$4,204.59; Orange, \$957.34; Shelburne, \$3,794.94; Shutesbury, \$1,665.55; Sunderland, \$2,833.18; Whately, \$2,448.44.

Hampden County.—Agawam, \$8,252.01; Blandford, \$59,069.50; Brimfield, \$6,701.21; Chester, \$22,685.03; Chicopee, \$5,738.48; East Longmeadow, \$326.94; Holland, \$40.51; Holyoke, \$1,233.45; Monson, \$1,003.18; Palmer, \$5,965.57; Russell, \$2,723.33; Southwick, \$144,236.98; Springfield, \$2,581.25; Tolland, \$107.07; Wales, \$653.33; West Springfield, \$2,025.63; Westfield, \$2,424.39; Wilbraham, \$2,187.98.

Hampshire County.—Amherst, \$2,689.88; Belchertown, \$1,674.52; Cummington, \$3,914.32; Easthampton, \$1,261.93; Goshen, \$2,995.94; Granby, \$3,260.71; Hadley, \$2,202.18; Hatfield, \$3,762.62; Huntington, \$4,251.89; Northampton, \$6,370.52; Pelham, \$543.71; South Hadley, \$6,411.68; Southampton, \$3,627.66; Ware, \$4,410.63; Williamsburg, \$1,810.24; Worthington, \$928.06.

Middlesex County.—Acton, \$47,302.46; Arlington, \$9,360.20; Ashby, \$24,798.27; Ashland, \$29,572.91; Ayer, \$855.46; Bedford, \$164.05; Belmont, \$1,271.49; Billerica, \$10,937.97; Boxborough, \$3,705.41; Burlington, \$16,427.63; Cambridge, \$1,008.20; Chelmsford, \$24,933.15; Concord, \$48,025.81; Dracut, \$311,104.39; Framingham, \$53,202.08; Groton, \$13,763.65; Holliston, \$43,348.11; Hudson, \$16,023.71; Lexington, \$28,257.06; Lincoln, \$19,963.20; Littleton, \$55,591.19; Lowell, \$94,946.35; Marlborough, \$48,004.68; Medford, \$910.73; Melrose, \$603.70; Natick, \$6,347.93; Newton, \$24,469.11; North Reading, \$1,393.27; Pepperell, \$2,502.64; Reading, \$3,690.72; Shirley, \$996.66; Somerville, \$605.73; Stoneham, \$831.28; Sudbury, \$18,731.39; Tewksbury, \$21,406.68; Townsend, \$3,630.42; Tyngsboro, \$20,772.11; Waltham, \$712.92; Watertown, \$1,335.41; Way-

land, \$10,986.68; Westford, \$45,352.27; Weston, \$13,812.07; Wilmington, \$8,-488.55; Winchester, \$18,443.37; Woburn, \$53,899.89.

Nantucket County. — Nantucket, \$129.05.

Norfolk County. — Avon, \$690.18; Bellingham, \$765.74; Braintree, \$28,032.98; Brookline, \$9,177.77; Canton, \$44,592.84; Cohasset, \$1,598.37; Dedham, \$11,-848.59; Dover, \$474.84; Foxboro, \$1,879.48; Franklin, \$899.97; Holbrook, \$2,-852.26; Milton, \$23,425.97; Needham, \$5,260.39; Norfolk, \$375.79; Norwood, \$29,701.74; Plainville, \$2,877.42; Quincy, \$3,918.14; Randolph, \$11,559.80; Sharon, \$544.80; Stoughton, \$37,521.06; Walpole, \$3,906.43; Wellesley, \$12,-328.66; Westwood, \$8,463.45; Weymouth, \$28,903.06; Wrentham, \$6,260.17.

Plymouth County. — Abington, \$2,770.76; Bridgewater, \$1,927.05; Brockton, \$2,605.64; Duxbury, \$1,770.56; East Bridgewater, \$1,517.17; Hanover, \$6,309.72; Hingham, \$7,768.38; Hull, \$385.44; Kingston, \$870.13; Lakeville, \$4,828.24; Marion, \$1,155.01; Marshfield, \$3,131.04; Mattapoisett, \$2,558.70; Middleborough, \$6,526.87; Norwell, \$507.11; Pembroke, \$1,109.77; Plymouth, \$3,185.54; Rochester, \$869.26; Rockland, \$532.57; Scituate, \$5,364.61; Wareham, \$99,-105.11; West Bridgewater, \$2,798.90; Whitman, \$600.84.

Suffolk County. — Boston, \$164,456.94; Chelsea, \$8,964.86; Revere, \$163,341.11.

Worcester County. — Ashburnham, \$2,002.50; Athol, \$1,121.06; Auburn, \$10,-743.60; Barre, \$3,032.47; Blackstone, \$534.74; Brookfield, \$644.92; Charlton, \$10,675.10; Douglas, \$298.47; Dudley, \$2,221.09; East Brookfield, \$813.50; Fitchburg, \$3,461.29; Gardner, \$1,281.43; Grafton, \$3,786.55; Hardwick, \$279.44; Harvard, \$27,202.80; Holden, \$2,604.35; Hopedale, \$119.75; Lancaster, \$1,822.46; Leicester, \$5,224.93; Leominster, \$3,890.62; Lunenburg, \$3,258.19; Mendon, \$1,-154.37; Milford, \$1,560.66; Millbury, \$30,713.89; Millville, \$223.24; New Braintree, \$38.26; North Brookfield, \$474.76; Northborough, \$9,865.83; Northbridge, \$3,833.88; Oakham, \$475.42; Oxford, \$4,999.05; Paxton, \$2,944.26; Petersham, \$3,743.03; Phillipston, \$514.36; Princeton, \$320.98; Rutland, \$30,339.58; Shrewsbury, \$7,491.08; Southborough, \$5,720.66; Southbridge, \$248.24; Spencer, \$965.69; Sterling, \$40,312.60; Sturbridge, \$6,552.87; Sutton, \$1,593.53; Templeton, \$20,489.93; Upton, \$1,221.87; Uxbridge, \$2,252.65; Warren, \$2,471.27; Webster, \$1,205.62; Westborough, \$8,083.59; West Boylston, \$7,721.09; West Brookfield, \$931.00; Westminster, \$4,233.83; Winchendon, \$1,579.01; Worcester, \$6,808.54.

Miscellaneous expenditures are as follows: —

<i>Snow Removal</i>		
Truck repairs	\$8,035.67	
Truck operation	49,130.96	
Truck plow repairs	57,880.92	
Tractor repairs	3,387.34	
Tractor operation	47,737.30	
Tractor plow repairs	50,267.68	
Snow fence	896.60	
Expenditures under towns	722,979.84	
		<hr/>
		\$940,316.31
<i>Traffic</i>		
White lines	\$5,898.55	
E. R. A.	5,949.20	
Warning signs	18,807.79	
Direction signs	41,170.47	
Regulatory signs	2,134.03	
Control signals	37,898.67	
Traffic survey	28,287.22	
Traffic permits	322.05	
		<hr/>
		\$140,467.98

Bridges

Somerset Bridge	\$9,988.38	
Newburyport Bridge	4,691.92	
Fairhaven-New Bedford Bridge	11,743.88	
Quincy-Weymouth Bridge	19,834.72	
		<hr/>
		\$46,258.90
Detour bulletins		2,412.64
Geodetic survey		3,419.56
Safety advertising		2,000.00
		<hr/>
Total of miscellaneous expenditures		\$1,134,875.39

Summary of Maintenance Expenditures

Maintenance and repair of State Highways	\$3,970,429.46
Miscellaneous expenditures	1,134,875.39
	<hr/>
Total	\$5,105,304.85

REMOVAL OF SNOW AND ICE FROM STATE HIGHWAYS

The authority of the Department relative to the removal of snow and ice from State highways has been provided by section 19, chapter 81, General Laws, as amended.

The co-operation of the Department with officers of cities, towns and counties, in keeping open and reasonably passable for vehicles during the winter months such highways as may be selected by the Department is provided for in section 11, chapter 84, General Laws, as amended.

In accordance with the provisions of these laws, the Department selected 1,848 miles of highways on the principal routes of travel, 1,668 miles of which are State highways and 180 miles town highways.

The work of snow removal on these routes is performed in a large part by the trucks and tractors owned and operated by the Department, but certain towns and cities, by agreement with the Department, perform part of the work of snow removal on the portions of the routes within their limits. All of this work is done under the direction and supervision of the Department.

The expenditures by the Department for snow removal during the year under the provisions of both the above-mentioned laws amounted to a total of \$1,102,380.81, which includes the cost of maintenance and repair of the equipment, actual cost of plowing and purchase of materials, such as calcium chloride and sand for use on icy conditions of the road surfaces.

TRAFFIC SIGNS, LIGHTS, MARKINGS, SIGNAL SYSTEMS AND REGULATIONS

The work of bringing about uniformity in traffic signs, lights, markings, signal systems and regulations as provided by Chapter 85, Section 2 and Chapter 89, Sections 8 and 9 of the General Laws, Tercentenary Edition, has been carried on by the Department of Public Works as in previous years.

Under the provisions of these statutes certain duties are placed upon the Department in relation to the erecting of these traffic signs, etc., and particular jurisdiction is granted over like signs, etc., erected by others.

In the first instance, the Department is required to erect on all numbered routes such signs, etc., as it may deem necessary for promoting the public safety and convenience. It may also, in its discretion, designate any way as a "Through Way."

TRAFFIC SIGNS, SIGNALS, ETC., ERECTED BY DEPARTMENT

Accordingly, the Department has, during the past year, erected those signs, etc., and designated such "Through Ways" as are shown in the table below:

Traffic signals	20
Traffic beacons	24
Traffic signs	18,241
Traffic markings (in miles)	544
Through ways	3

The erection or designation of the foregoing was based upon accident analyses, traffic counts and speed checks. It is only through a close study of these that the need for warning or control can be accurately gauged.

DIRECTIONAL SIGNS AND ROUTE MARKERS ERECTED BY DEPARTMENT

Still other signs have been erected under the provisions of the first-named chapter. These are known as directional signs. Posted at or within intersections, these serve to direct the motorist to adjacent, contiguous and even remote towns.

Travel has been further facilitated by the opening of new routes and the marking of these with button signs which notify the motorist upon which route he is traveling.

The fabricating and painting of these signs are done at the Department's traffic shop.

TRAFFIC CONTROL SIGNALS, SIGNS AND REGULATIONS APPROVED BY DEPARTMENT

The provisions of the several chapters already referred to also make the validity of regulations made, or signs, etc., erected, by cities and towns upon ways within their control, dependent upon the written approval of the Department of Public Works. The same sanction is required for Through Ways which may be designated by these municipalities.

As a means of aiding the municipalities in this respect, the Department assigns its engineers to make studies, and to give advice to those cities and towns which desire to control vehicular traffic through the medium of regulations and signs.

This resulted during the past year in the Department's approving the following traffic control features:

Traffic signals	17
Traffic beacons	3
Traffic signs and markings	15
Traffic rules and regulations	98
Isolated stop signs	132
Through ways	8
Safety zones	1

ROADSIDE MAINTENANCE AND DEVELOPMENT

Roadside maintenance as related to the care and planting of trees and other growth on the areas within the highway layouts and adjacent to the traveled surface of State highways has been one of the activities of this Department for over thirty-nine years. This work has been developed more rapidly during recent years because it has become recognized that systematic and intelligent control and development of all features of the roadside conditions are of value not only from the point of view of attractiveness in appearance but as a safety factor as well.

The Department has organized and trained a group of men under competent supervision to have charge of this work, not only for the removal and trimming of trees, brush and undesirable growth, but also for the selection and planting of new growth suitable for the locations. The removal of trees and brush that may obstruct vision at curves, intersections or other points on the highway is done to insure that operating conditions shall be as safe as possible and unnecessary growth is cleared out in order to afford attractive vistas at many scenic locations. For the protection of the roadside trees the Department has maintained a corps of inspectors to supervise the trimming that may be necessary for the construction of light and power transmission lines. In connection with this work a Nursery is maintained at Sudbury where most of the trees and shrubs for use on the highways of Massachusetts are grown and made available for use by the Department. Strict supervision of the tree trimming by the Public Service Corporations is maintained, thus preserving the natural beauty of our roadsides as much as possible and still allowing the Public Service Corporations to extend their services.

During the year planting has been done as follows:

3,710 trees	2,229 evergreens
7,419 shrubs	950 small pines
1,997 vines	

Through co-operation with the United States Bureau of Public Roads, Federal funds under the provisions of the National Recovery Act have been made available for planting along State highways at locations selected and approved in the towns of Lenox, Sheffield, Northborough, Natick and Framingham.

Also, the Department has acted as sponsor for roadside beautification projects carried out with Federal funds made available under the Federal Emergency Relief Administration of Massachusetts.

The Department submitted a total of 263 projects for roadside beautification along the State highways throughout the Commonwealth.

SIDEWALKS ALONG STATE HIGHWAYS

State Bond Issue and Federal W.P.A. Allotments

The Bond Issue legislation, Chapter 464, Acts of 1935, authorized the expenditure of \$4,000,000 for sidewalk construction along State highways, and acting under the authority of this Act, the Department has requested the Federal Government to co-operate in this work, and projects have been submitted by the Department to the Works Progress Administration for its approval.

It is intended that the Federal Government will undertake the grading and drainage, and the Commonwealth will provide the hard surface and curbing for these sidewalks. The Department has in progress at the end of the year, work totalling 44 miles of sidewalks at an expenditure to the end of this year amounting to \$310,162.64.

FARM-TO-MARKET ROADS

The Department was also sponsor for the construction and improvement of the so-called Farm-to-Market roads, under the provision of the Works Progress Administration. The projects begun during the latter part of the year total 46, covering a total of 55 miles of road.

FEDERAL AID IN CONSTRUCTING HIGHWAYS

Statements as to the acts of Congress and of the Massachusetts Legislature with respect to co-operation between the United States and the State of Massachusetts in the construction and maintenance of highways, including the Federal Highway Act approved November 9, 1921, may be found in the annual reports for this Department for the years 1920-1927, inclusive.

A detailed statement of Federal Aid allotments and projects for Massachusetts appears in the Department of Public Works Report for the fiscal year 1933. Additions or alterations for the fiscal years 1934 and 1935 and a summary of the several allotments to date appear as follows:

Total amount of regular Federal Aid for the period from June 30, 1916, to June 30, 1933	\$18,523,440.00
In addition to the above, allotments were made as follows:	
1931 "Federal Emergency Advance Funds"	1,141,460.00
1932 "Federal Emergency Relief and Construction Act"	1,716,612.00
1933 "National Recovery Funds"	6,597,100.00
1934 "Hayden-Cartwright Bill" (Act of June 18, 1934)	3,350,474.00
Emergency Relief Appropriation Act of 1935	
Hayden-Cartwright Amendment	\$1,741,877.00
Works Program—Highways	3,262,885.00
Works Program—Grade Crossings	4,210,833.00
	<hr/>
	9,215,645.00
Total amount of Federal Allotments to date	<hr/> \$40,544,731.00
(This includes all types of Federal Aid)	

There were thirteen (13) projects prepared in addition to those shown in the Report of the Department of Public Works for 1934. The length of Federal Aid

Road and Bridge projects in this State, from the commencement of work of this character to November 30, 1935, inclusive, is 1,076.777 miles, an increase of 34.060 miles over 1934. In addition to this there were seven (7) landscaping (roadside improvement) projects prepared totaling 8.670 miles. These were all on old Federal Aid projects.

The total length of Federal Aid projects (1,076.777 miles) divided according to the various counties is as follows:

Barnstable	100.820	Hampshire	54.300
Berkshire	133,254	Middlesex	107.647
Bristol	87.219	Norfolk	88.393
Dukes	3.117	Plymouth	108.179
Essex	87.360	Suffolk	4.344
Franklin	54.796	Worcester	181.077
Hampden	66.271		

PROJECTS FINANCED FROM 1933 NATIONAL RECOVERY FUNDS AND REGULAR
FEDERAL AID FUNDS RELEASED FROM COMPLETED PROJECTS

SHEET 1

No.	Town-City	Mileage	Reg. Fed. Aid	Nat. Rec. Funds	Total Funds	Amount Received	Balance
NRH 56	Stoughton	2.188	-	\$117,194 77	\$117,194 77	\$117,194 77	-
NRH 57(2)	Winchester	1.031	\$12,600 00	12,746 42	25,346 42	25,346 42	-
NRM 57(1)	Woburn	1.995	14,100 00	14,140 19	28,240 19	28,240 19	-
NRH 57-B	Winchester	0.885	14,800 00	18,170 72	32,970 72	32,970 72	-
NRH 78	Burlington	3.759	22,500 00	22,671 06	45,171 06	45,171 06	-
NRH 89-A	Easton	1.553	-	38,908 87	38,908 87	38,908 87	-
NRH 89-C	Easton	1.392	-	40,851 25	40,851 25	40,017 36	-
				(\$833 89 Released)			
NRM 126A	Newburyport	1.361	24,976 16	547,399 77	572,375 93	500,023 15	4,975 23 FA 67,377 55 NR
NRM 130B	Auburn	0.443	-	105,602 95	105,602 95	87,148 83	18,454 12
NRM 131C	Springfield (Force Acct.)	3.422	-	207,919 56	207,919 56	207,487 36	-
				(\$432 20 Released)			
NRH 138B	Chester	0.307	-	52,686 97	52,686 97	41,223 00	11,463 97
NRH 143B	Fairhaven	0.726	-	64,430 41	64,430 41	64,430 41	-
NRM 170C	Quincy- Weymouth (Contracts 1, 2 and 3)	0.749	-	1,883,586 65	1,883,586 65	1,641,702 46	241,884 19
NRH 172B	Sterling-West Boylston (In- cludes Traffic Signals)	4.337	96,500 00	124,037 32	220,537 32	220,537 32	-
NRH 173C	Lanesboro*	0.347	8,000 00	9,983 98	17,983 98	17,983 98	-
NRM 173D	Pittsfield*	1.462	23,000 00	30,896 49	53,896 49	53,896 49	-
NRH 174B	Scituate- Marshfield	1.168	-	150,757 25	150,757 25	121,745 19	29,012 06
NRH 184A	Charlton	2.848	33,900 00	36,210 73	70,110 73	68,675 70	-
				(\$1,435 03 Released)			
NRH 184C	Charlton- Oxford	2.609	20,523 83	38,145 29	58,669 12	54,871 55	-
				(\$3,797 57 Released)			
NRH 188F	Ashby-Townsend	4.023	16,435 81	117,531 69	133,967 50	133,967 50	-
NRH 189E	Mattapoisett (Force Acct.)	1.583	30,000 00	80,642 31	110,642 31	110,642 31	-
NRH 189F	Wareham	1.556	25,000 00	32,224 03	57,224 03	57,224 03	-
NRH 194B	Templeton	3.002	36,200 00	41,283 82	77,483 82	58,831 75	4,522 75 FA 14,071 86 NR
				(\$57.46 Released from NRH Funds)			
NRH 199C	Newbury*	3.047	44,000 00	46,975 44	90,975 44	90,975 44	-
NRM 235B	Brookline- Newton	1.089	-	210,478 94	210,478 94	201,168 84	9,310 10
NRH 240B	West Boylston	0.594	7,200 00	7,263 08	14,463 08	14,463 08	-
NRM 241A	East Boston- Revere	2.294	-	713,586 36	713,586 36	618,514 83	95,071 53
NRM 241B	Revere	1.044	-	250,293 28	250,293 28	216,318 30	33,974 98
NRM 242A	Arlington- Belmont- Cambridge	1.557	-	599,758 24	599,758 24	517,097 58	82,660 66
NRH 243A	Amesbury	0.795	17,984 24	21,836 51	39,820 75	39,820 75	-
NRM 244A	Boston (Hyde Park)	0.296	-	37,926 57	37,926 57	37,926 57	-
NRS 245A	Huntington	5.313	-	144,633 69	144,633 69	144,633 69	-
NRS 246	Conway- Deerfield	6.190	-	235,351 71	235,351 71	197,522 80	37,828 91
NRS 247	Otis	3.738	-	102,613 44	102,613 44	93,245 10	9,368 34
NRM 248A	North Adams	0.813	-	176,360 52	176,360 52	176,360 52	-
NRM 249	Worcester	0.225	-	104,345 23	104,345 23	58,667 06	45,678 17
Totals	69.741	\$447,720 04	\$6,436,445 51	\$6,884,165 55	\$6,171,954 98	\$705,654 42	
	(Total Amount Released)	\$6,556 15)					

* These projects were not active in 1935. They were complete and final payment received as of November 30, 1934.

STATEMENT OF PROJECTS DONE UNDER THE FEDERAL EMERGENCY RELIEF AND CONSTRUCTION ACT

(These were partly financed by Regular Federal Aid)

No	Town-City	Mileage	Reg. Fed. Aid	Emerg. Con. Fund	Total	Amount Received	Balance
E-12	Ipswich*	2.081	\$16,000 00	\$27,939 83	\$43,939 83	\$43,939 83	-
E-21-A	Hancock-Pittsfield*	2.773	14,000 00	112,866 39	126,866 39	126,866 39	-
E-21-B	Hancock*	1.098	11,000 00	61,965 98	72,965 98	72,965 98	-
E-122-F	Barnstable-Yarmouth*	2.395	20,000 00	61,462 14	81,462 14	81,462 14	-
E-134-D	Oakham	2.656	20,000 00	44,528 59	64,528 59	64,528 59	-
E-170-A	Cohasset-Hingham	3.151	34,273 54	225,038 35	259,311 89	259,311 89	-
E-170-B	Cohasset-Scituate	5.808	50,000 00	149,194 29	199,194 29	199,194 29	-
E-177-D	Yarmouth*	4.818	30,000 00	81,138 24	111,138 24	111,138 24	-
E-211-D	Wellesley (West)*	2.272	40,000 00	203,119 63	243,119 63	243,119 63	-
E-211-E	Wellesley (Ctr.)*	1.108	70,000 00	312,096 18	382,096 18	382,096 18	-
E-235-A	Wellesley (East)*	1.360	35,000 00	91,952 50	126,952 50	126,952 50	-
E-236	Lakeville-Middleboro						
	Raynham-Taunton	6.344	10,000 00	211,797 81	221,797 81	221,797 81	-
E-237-A	Oxford-Webster*	3.374	30,000 00	99,299 97	129,299 97	129,299 97	-
E-238-B	Belchertown*	2.812	20,000 00	34,212 10	54,212 10	54,212 10	-
	Totals	42.050	\$400,273 54	\$1,716,612 00	\$2,116,885 54	\$2,116,885 54	-

* These projects were not active in 1935. They were complete and final payment received as of November 30, 1934.

PROJECTS FINANCED FROM REGULAR FEDERAL AID FUNDS

Note:—The following are projects that were done in 1933 and 1934. There were no projects under this classification in the fiscal year 1935. Final payment received as of November 30, 1934.

No.	Town-City	Mileage	Federal Funds Allotted	Federal Funds Received
F-106-A	Bourne-Falmouth	6.458	\$78,876 03	\$78,876 03
211-C	Framingham-Natick	4.008	100,200 00	100,200 00
218	Canton-Dedham-Westwood	3.947	177,698 65	177,698 65
226-C	Shrewsbury-Worcester	3.015	86,713 23	86,713 23
229-A	Dedham-Westwood-Needham	3.448	96,488 72	96,488 72
229-B	Needham-Wellesley	3.653	93,783 11	93,783 11
231-B	Dedham-Westwood-Norwood	3.566	150,074 96	150,074 96
	Totals	28.093	\$783,834 70	\$783,834 70

1934 LANDSCAPE (ROADSIDE IMPROVEMENT) PROJECTS Financed from National Recovery Funds

These projects were active in 1934 — Final payments received in 1935.

No.	Town-City	Mileage	Nat. Rec. Allott.	Nat. Rec. Funds Received	Amount Released	Balance
NRH 211-C	Framingham-Natick	4.008	\$3,054 85	\$3,048 97	\$5 88	-
NRH 211-D	Wellesley (West)	2.272	2,070 64	2,060 14	10 50	-
NRH 211-E	Wellesley (Center)	1.108	1,886 84	1,878 27	8 57	-
NRH 211-F	Framingham-Natick	1.595	1,579 11	1,573 81	5 30	-
NRH 218	Canton-Dedham-Westwood	3.947	8,182 41	7,550 02	632 39	-
NRH 229-A	Dedham-Westwood-Needham	3.448	2,674 87	2,674 87	-	-
NRH 229-B	Needham-Wellesley	3.653	5,965 89	5,965 89	-	-
NRH 234-A	Lee-Stockbridge	2.010	4,561 38	4,234 25	327 13	-
NRH 235-A	Wellesley (East)	1.360	3,703 97	3,675 74	28 23	-
NRH 235-C	Wellesley (East)	0.463	510 13	505 88	4 25	-
NRM 235-D	Newton	2.757	5,562 67	5,511 78	50 89	-
	Totals	26.621	\$39,752 76	\$38,679 62	\$1,073 14	-

1935 LANDSCAPE (ROADSIDE IMPROVEMENT) PROJECTS
Financed from National Recovery Funds

No.	Town-City	Mileage	Funds Allotted	Funds Received	Balance
NRH 98	Sheffield	3.052	\$540 10	—	\$540 10
NRH 114	Lenox	2.407	8,441 12	—	8,441 12
NRH 137-C	Sheffield	1.532	2,110 40	—	2,110 40
NRH 147-A	Lenox	0.773	797 50	—	797 50
NRH 211-A	Northboro	0.303	12,300 25	—	12,300 25
NRH 211-F	Framingham	0.142	2,678 64	—	2,678 64
NRH 211-C	Natick	0.151	5,483 00	—	5,483 00
Note:—All of the above projects are on old Federal Aid projects.					
	Totals	8.360	\$32,351 01	—	\$32,351 01

1935 PROJECTS FINANCED UNDER THE HAYDEN-CARTWRIGHT BILL

No.	Town-City	Mileage	Allotment	Amount Received	Balance
NRM 69-B	Haverhill	0.875	\$43,493 83	\$39,723 96	\$3,769 87
NRM 91	Lowell*	0.968	52,248 24	38,599 70	13,648 54
NRH 73	Southwick	6.874	134,566 63	114,874 35	19,692 28
NRH 125-C	Bourne-Wareham*	1.417	146,040 32	103,391 93	42,648 39
NRH 134-E	Rutland	0.833	19,155 95	—	19,155 95
NRM 155-C	Westfield	0.677	54,864 97	47,260 40	7,604 57
NRH 173-E	Cheshire	2.200	156,661 28	118,388 20	38,273 08
NRH 176-B	Bourne*	1.509	85,632 47	66,900 10	18,732 37
NRM 235-E	Boston-Brookline	0.079	390,380 10	—	390,380 10
NRS 247-B	Otis-Blandford	3.508	67,036 95	55,273 70	11,763 25
NRH 250	Dracut-Methuen*	5.941	210,617 41	NR 206,617 41	4,000 00
			51,821 58	FA 50,821 58	1,000 00
NRH 251-A	Dedham* (Not including Sidewalks)	1.060	210,346 34	185,698 95	24,647 39
NRM 251-B	Boston* (Not Including Sidewalks)	0.656	117,675 52	89,555 40	28,122 12
NRS 252	Blandford	1.952	53,368 79	51,919 51	1,449 28
NRS 253	Billerica-Chelmsford (Not Including Side-walks)	2.835	88,679 59	78,839 90	9,839 69
NRS 254	Athol-Orange	2.847	156,859 56	—	156,859 56
NRS 255	Andover (Not Including Sidewalks)	4.711	157,718 15	152,718 15	5,000 00
NRH 256-A	Millbury	2.075	406,101 72	—	406,101 72
NRS 257	Montague	4.570	313,669 92	—	313,669 92
	Totals	45.587	\$2,916,939 32	\$1,400,581 24	\$1,516,358 08

* These projects were listed as active projects in the report of November 30, 1934, and were included in the Federal Aid mileage added in the fiscal year 1934.

BRIDGES

During the year the Department has prepared designs and plans for, and done other work relating to, bridges throughout the Commonwealth. The various cities and towns, the localities therein, the character of the structure and other details are as follows:

BRIDGES AND STRUCTURES BUILT OR CONTRACTED FOR

Cities and Towns, Locality and Character of Structure

Athol—Seven 24-foot spans, reinforced concrete beams on reinforced concrete pile trestle, total length 168 feet, 40-foot roadway, 5-foot sidewalk, over Millers River. New road.

Boston—At Brookline line over Muddy River reinforced concrete arch box culvert, 15-foot span.

Boston—Jamaicaway over Huntington Avenue, one 110-foot 6-inch span steel rigid frame with stone facing.

Brookline—15-foot reinforced concrete arch culvert, over Muddy River.

Cheshire—North Street over Bassett Brook, one 12-foot span, reinforced concrete arch.

Dartmouth—Padanaram Bridge over Apponaganset River, 4 spans at 25 feet, 6 spans at 26 feet, 9 inches, 1 swing draw span with 30-foot openings; total length, 417 feet, 9 inches.

- Dedham — Providence Turnpike over Wigwam Brook, 10-foot span, reinforced concrete culvert.
- Dedham — Providence Turnpike over Mother Brook. Four 22-foot spans reinforced concrete beams, total length 96 feet.
- Hadley — Bay Road over Fort River, 8 spans at 15 feet, 6 inches, total length 126 feet, reinforced concrete slab on timber piles.
- Holyoke — Northampton Street, under tracks of N. Y., N. H. & H. R. R., 1 span, 86 feet, through girder.
- Lee — Washington Mountain Road over Brook, one 33-foot span steel stringer with reinforced concrete floor.
- Malden — Medford Street over Malden River, trunnion bascule drawbridge with steel stringer approach, span 52 feet, 6 inches, clear opening; 66 feet center to center bearings.
- Millbury — Worcester Road over Blackstone River, one 60-foot span steel stringer bridge with reinforced concrete floor.
- Millbury — Worcester Road, over tracks of N. Y., N. H. & H. R. R. One 56 feet, 6 inches steel-beam span; one 25-foot span, two 31-foot spans, one 35 feet, 3 inches span, concrete beams; total length 220 feet.
- Millville — Center Street, over Blackstone River. Steel stringer bridge with reinforced concrete floor; two spans at 30 feet, one span at 60 feet.
- Montague — Montague Road, over tracks of Boston and Maine Railroad and Central Vermont Railroad, steel plate girder bridge with concrete floor; one span 46 feet, 6 inches, one span 60 feet, one span 81 feet, 4½ inches.
- Montague — Montague Road, under tracks of Central Vermont Railroad. Through plate girder bridge with wrought iron deck, one span 102 feet, 9¾ inches, center to center bearings.
- Montague — Federal Street, over Saw Mill River, one span 31 feet, 1¾ inches, reinforced concrete beam.
- Newbury — Newburyport Turnpike over tracks of Boston and Maine Railroad. Two steel girders at 85 feet, reinforced concrete beam approaches, total length 470 feet.
- Palmer — Whipple's Bridge over Ware River. Steel stringer bridge, two spans at 44 feet, 6 inches.
- Plymouth — Taylor Avenue over outlet from Bartlett's Pond, 20-foot span reinforced concrete slab.
- Walpole — Washington Street over a spur track of Bird & Son, Inc., 22-foot span steel stringer with reinforced concrete floor.
- Waltham — Main Street over tracks of Boston and Maine Railroad. Through truss bridge, one span 115 feet; two spans at 59 feet, 6 inches, steel stringers, total length 240 feet, reinforced concrete floor.
- Weymouth — Main Street over tracks of New York, New Haven & Hartford Railroad. Through plate girder, reinforced concrete floor, 110-foot span.

ALTERATIONS, REPAIRS AND EXTENSIONS TO BRIDGES AND STRUCTURES
MADE OR CONTRACTED FOR

- Athol — Over Lake Rohunta Outlet, reinforced concrete arch extension to existing concrete arch, 16-foot span.
- Berkley — At Dighton line, repairs to draw bridge and fender pier over Taunton River.
- Bourne — At Wareham line, Cohasset Narrows Bridge, steel and concrete extension of existing concrete beam bridge.
- Buckland — At Charlemont line, Scott's Bridge over Deerfield River, repairs to abutments and wing walls.
- Dracut — Over Richardson Brook, construction of new fence.
- Fairhaven — At New Bedford line, Brightman Street Bridge, repairs to dolphins and fender piers.
- Greenfield — At Montague line, Montague City Bridge over Connecticut River, repairs to bridge.
- Millville — Center Street over Canal, concrete slab extension to existing stone arch, 21-foot span.

Newbury — Parker River Bridge, removal of pile stubs from river and repair of pier.

Newbury — Newburyport Turnpike over Little River, reinforced concrete beam extension to existing concrete beam bridge, 21-foot span.

CONTEMPLATED BRIDGES AND STRUCTURES

Plans, Studies or Estimates Made

Cities and Towns, Locality and Character of Structure

Amherst — College Street under tracks of Central Vermont Railway.

Ashburnham — Elimination of Astor House grade crossing.

Attleboro — Washington Street over New Haven Railroad, Reconstruction.

Ayer — Elimination of grade crossing, West Main Street, over Boston and Maine Railroad.

Beverly — Elimination of grade crossing, Paradise Crossing over Boston and Maine Railroad.

Boston — At Milton line, over Neponset River.

Boston — Porter Street over Boston & Albany Railroad.

Boston — Tunnel Road under Prescott Street.

Boston — Tunnel Road under Bennington Street and under Neptune Street.

Boston — Tunnel Road under Saratoga Street.

Brookline — Highway separation at Brookline Village.

Brookline — Highway separation at Cypress Street.

Canton — At Norwood and Westwood lines over Neponset River, reconstruction.

Canton — Dedham Road over New York, New Haven & Hartford Railroad.

Chesterfield — Reconstruction of existing bridge, First Bridge over Stevens Brook.

Chesterfield — Reconstruction of existing bridge, Second Bridge over Stevens Brook.

Clinton — Lancaster Mills Bridge over Nashua River.

Dartmouth — Westport Factory.

Edgartown — Katama Road over Mattakesett Creek.

Fall River — At Somerset line, Slades Ferry Bridge over Taunton River.

Florida — At Savoy line, Mohawk Trail over Cold River.

Foxborough — Cocasset Street under tracks of New York, New Haven and Hartford Railroad.

Gardner — Mechanic Street over tracks of Boston and Maine Railroad.

Grafton — Shrewsbury Street over tracks of Boston & Albany Railroad.

Hatfield — West Street over Mill River, extension of existing bridge.

Holyoke — Northampton Road, culvert extension.

Hopkinton — At Westborough line, Rocklawn Crossing, over Sudbury River and tracks of Boston & Albany Railroad.

Ipswich — Linebrook Road and Newburyport Turnpike, Grade Separation.

Lawrence — Andover Street under Boston and Maine Railroad.

Lincoln — South Great Road over tracks of Boston and Maine Railroad.

Lunenburg — Leominster Road over tracks of Boston and Maine Railroad.

Lynnfield — Newburyport Turnpike over Circumferential Highway.

Manchester — Proposed road over Manchester Harbor.

Mansfield — Elm Street over tracks of New York, New Haven & Hartford Railroad.

Mansfield — Pedestrian underpass under tracks of New York, New Haven & Hartford Railroad.

Millbury — Worcester Road over West Main Street.

Milton — Proposed road over New York, New Haven & Hartford Railroad.

Monroe — Valley Road over Dunbar Brook. Extension to existing bridge.

New Marlborough — Great Barrington Road over Konkapot Brook.

Newton — At Weston line, Northern Circumferential Highway over Charles River.

Newton — At Wellesley line, over Charles River.

North Adams — Williamstown Road over a brook. Widening existing stone arch.

North Andover — Boxford Road over Mosquito Brook.

Peabody — Lowell Street over Newburyport Turnpike.

Peabody — Circumferential Highway over Lowell Street.

Peabody — Circumferential Highway under Andover Street.
 Pittsfield — Dalton Road over tracks of Boston & Albany Railroad.
 Randolph — North Street over New Haven (Reconstruction).
 Revere — Squire Road extension over Boston and Maine Railroad.
 Rowley — Newburyport Turnpike under Haverhill Street.
 Salisbury — Elm Street over tracks of Boston and Maine Railroad.
 Saugus — Newburyport Turnpike over Saugus River, extension of existing bridge.
 Saugus — Newburyport Turnpike under Main Street.
 Saugus — Newburyport Turnpike under Walnut Street.
 Sharon — Depot Street over New York, New Haven & Hartford Railroad.
 Sheffield — Canaan Road over tracks of New York, New Haven & Hartford Railroad.
 Southwick — State Highway over Webb Brook; reconstruction.
 Sudbury — Boston Post Road over Parmenters Mill Pond; reconstruction.
 Sudbury — Worcester Road over tracks of New York, New Haven & Hartford Railroad.
 Sutton — Worcester Road over Wilkinsonville Road.
 Sutton — Worcester-Providence Road over Central Turnpike.
 Topsfield — Newburyport Pike under Ipswich Road.
 Weston — Circumferential Highway over South Avenue.
 Weston — Circumferential Highway over Aqueduct.
 Williamstown — North Adams Road over Green River; reconstruction.
 Winchendon — New Boston Road over tracks of Boston and Maine Railroad.
 Winchendon — Pequig Crossing, Ashburnham Road over tracks of Boston and Maine Railroad.
 Winchester — Main Street over outlet of Wedge Pond.
 Worcester — Barber's Crossing over tracks of Boston and Maine Railroad.
 Worcester — New Street over Neponset Street.
 Worcester — Pedestrian underpass under tracks of Boston and Maine Railroad near Barber's Crossing.

Examinations, Reports, Estimates, etc., at Request of Counties, Cities and Towns

Amherst — Puffer Mill Bridge over Mill River, estimate for new bridge.
 Amherst — Meadow Street over Mill River, estimate for new bridge.
 Amherst — Meadow Street over Podick Brook, estimate for new bridge.
 Clinton — Lancaster Mills Bridge over Nashua River. Estimate for new bridge.
 Clinton — West Boylston Street over tracks of Boston and Maine Railroad, question of responsibility for maintenance.
 Colrain — Griswoldville Bridge over North River. Estimate for repairs and for new bridge.
 Concord — Red Bridge over Concord River. Estimate for widening.
 Deerfield — At Sunderland line, over Connecticut River. Estimate for new bridge.
 Dudley — At Webster line, Pleasant Street over French River. Estimate for repairs.
 Fall River — Quequechan Street Bridge over Quequechan River. Estimate for a new bridge.
 Gill — At Montague line, over Connecticut River. Estimate for a new bridge.
 Greenfield — At Montague line, White Suspension Bridge. Estimate for a new bridge.
 North Attleborough — Mendon Road over Abbots Run Stream. Estimate for a new bridge.
 North Attleborough — Adamsdale Road over Abbots Run Stream. Estimate for a new bridge.
 Pepperell — Covered Bridge over Nashua River. Estimate for a new bridge.
 Tewksbury — Hall's Bridge over Shawsheen River. Estimate for a new bridge.
 Tewksbury — Bridge Street over Shawsheen River. Estimate for a new bridge.
 Warren — Boston Road over Quaboag River. Estimate for a new bridge.
 Warren — County Road over tracks of Boston & Albany Railroad. Estimate for repairs.

Warren — Main Street over tracks of Boston & Albany Railroad. Estimate for repairs.

Westport — Westport Point Bridge. Estimate for a new bridge.

Winchendon — Old County Road over Millers River. Estimate for a new bridge.

Bridge Plans Submitted and Examined during the Year under the Provisions of Section 35, Chapter 85, of the General Laws. (Tercentenary Edition.)

Fall River — Plymouth Avenue over Quequechan River. Creosoted timber pile bridge with reinforced concrete deck, 136 feet long.

Fitchburg — Sawyer Passway connecting First Street Underpass. Foot bridge.

Fitchburg — Water Street near Hardy's Foundry. Foot bridge.

Hamilton — Moulton Street over Miles River. Reinforced concrete culvert, 16-foot span.

Lee — Washington Mountain Road, 33 foot span steel stringer, concrete deck.

Methuen — Oakland Avenue over tracks of Boston and Maine Railroad; 31-foot road, two 6-foot sidewalks, reinforced concrete beam.

Pittsfield — East New Lenox Road over Sacket Brook, steel stringers with reinforced concrete floor.

Examinations, Reports, Estimates, etc., by direction of the Department

Adams — Center Street over Hoosic River, estimate for a new bridge.

Agawam — At West Springfield line, over Westfield River, estimate for a new bridge.

Berlin — Bridge Road over Assabet River, estimate for a new bridge.

Boston — At Chelsea line, Chelsea North Bridge over Mystic River, examination of plans and specifications.

Charlemont — Hawley Road over Deerfield River, estimate for a new bridge.

Erving — At Montague line, Millers Falls Bridge over Millers River, estimate for a new bridge.

Fairhaven — At New Bedford line, Coggeshall Street Bridge over Acushnet River, estimates for repairs and for a new bridge.

Hadley — At Northampton line, over Connecticut River, estimate for a new bridge.

Kingston — Elm Street over Jones River, estimate for a new bridge.

Lynn — At Saugus line, Fox Hill Bridge over Saugus River, investigation for alteration to relieve traffic.

BRIDGE OVER THE MERRIMACK RIVER BETWEEN NEWBURYPORT AND SALISBURY

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 716, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, of operating the draw and of maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1935, was 178. In 1934 the number of such openings was 110; in 1933 the number was 153; and in 1932 the number was 220.

The total expenditure during the year was \$4,691.92.

The total expenditure from 1912 to Nov. 30, 1935, inclusive, was \$199,724.15.

BRIDGE OVER TAUNTON RIVER BETWEEN FALL RIVER AND SOMERSET

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 717, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, and for operating the draw and maintaining the structure, shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1935, was 1,492. In 1934 the number of such openings was 2,118; in 1933 the number was 1,602; and in 1932 the number was 1,662.

The total expenditure during the year was \$9,988.38.

The total expenditure from 1912 to Nov. 30, 1933, inclusive, was \$411,645.10.

BRIDGE OVER ACUSHNET RIVER BETWEEN CITY OF NEW BEDFORD AND THE
TOWN OF FAIRHAVEN

This bridge, which was placed in charge of the Department of Public Works and made a State highway by the provisions of Chapter 406, Acts of 1930, which also provided that the expense of keeping the bridge in good repair for travel, operating the draw and of maintaining the structure, shall be paid by the Commonwealth, was taken over by the Department on June 27, 1930.

The number of draw openings while in charge of the Department beginning June 27, 1930, and ending Nov. 30, 1932, was 1,069. In 1933 the number of such openings was 1,867; in 1934 the number was 1,434; and in 1935 the number was 1,318.

The total expenditure during the year was \$11,743.88.

The total expenditure while in charge of the Department has been \$96,860.63.

BRIDGE OVER WEYMOUTH FORE RIVER BETWEEN THE CITY OF QUINCY AND THE
TOWN OF WEYMOUTH

The jurisdiction of the Department of Public Works over this bridge is provided for by Chapter 348, Acts of 1933. The construction of the new bridge at this location required the construction of a temporary bridge to accommodate the vehicular traffic which normally passed over the old bridge.

The number of draw openings at this temporary bridge during the fiscal year ending Nov. 30, 1935, was 2,812.

The expenditure during the year for the maintenance and operation of this temporary bridge was \$19,834.72.

CONSTRUCTION OF TOWN AND COUNTY WAYS
(Section 34, Chapter 90, General Laws, Ter. Ed.)

During the year the Department has contracted for work to be done in the towns/cities named in the following table, which also shows the type of road, the length contracted for, and the allotments of contributions by the State, towns/cities and counties:

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD	LENGTH CON-TRACTED FOR (FEET)
	State	Town			
<i>Barnstable County</i>					
Barnstable	\$5,400 00	\$2,700 00	\$2,700 00	Gravel and tar mixed in place	6,400
Barnstable	3,825 00	1,912 50	1,912 50	Gravel and tar mixed in place	4,115
Barnstable	1,600 00	800 00	800 00	Gravel and tar mixed in place	1,870
Barnstable	2,975 00	1,487 50	1,487 50	Repairs and oiling	17,750
Barnstable	1,500 00	750 00	750 00	Repairs and oiling	11,250
Brewster	5,100 00	2,550 00	2,550 00	Gravel and oiling	8,850
Chatham	11,050 00	5,525 00	5,525 00	Bituminous concrete	6,633
Falmouth	3,400 00	1,700 00	1,700 00	Gravel and tar mixed in place	3,750
Falmouth	1,250 00	625 00	625 00	Gravel and tar mixed in place	1,050
Harwich	850 00	425 00	425 00	Bituminous concrete	462
Harwich	2,040 00	1,020 00	1,020 00	Repairs and oiling	15,660
Harwich	6,800 00	3,400 00	3,400 00	Bituminous concrete	3,150
Orleans	5,100 00	2,550 00	2,550 00	Bituminous concrete	2,853
Orleans	3,400 00	1,700 00	1,700 00	Bituminous concrete	1,254
Wellfleet	5,100 00	2,550 00	2,550 00	Gravel	3,387
<i>Berkshire County</i>					
Adams	\$2,550 00	\$1,275 00	\$1,275 00	Stone retread	1,550
Adams	10,000 00	3,000 00	3,000 00	Bituminous macadam	3,400
Alford	1,275 00	637 50	637 50	Gravel	900
Alford	500 00	250 00	250 00	Repairs	7,713
Becket	850 00	425 00	425 00	Gravel	600
Becket	3,300 00	1,650 00	1,650 00	Gravel and tar	1,200
Becket	850 00	425 00	425 00	Gravel	500
Becket	2,000 00	1,000 00	1,000 00	Gravel	700
Cheshire	2,720 00	1,360 00	1,360 00	Stone retread and gravel	3,900
Clarksburg	850 00	425 00	425 00	Oiling	13,025
Clarksburg	2,000 00	1,000 00	1,000 00	Gravel and tar	1,200
Dalton	9,500 00	4,750 00	4,750 00	Stone retread	3,200
Egremont	3,200 00	1,600 00	1,600 00	Stone retread	3,950
Florida	1,700 00	850 00	850 00	Gravel	400
Florida	2,000 00	1,000 00	1,000 00	Gravel	1,000
Great Barrington	10,000 00	5,000 00	5,000 00	Bituminous macadam	3,379
Hancock	9,350 00	340 00	1,360 00	Penolithic pavement	2,098
Hancock	900 00	120 00	450 00	Grading and drainage	450
Hinsdale	1,000 00	500 00	500 00	Gravel and tar	1,800
Lanesborough	3,850 00	1,925 00	1,925 00	Gravel and tar	3,200
Lanesborough	2,150 00	1,075 00	1,075 00	Bridge and approaches	—
Lee	3,400 00	1,700 00	1,700 00	Gravel and tar and stone re-tread	2,650

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD	LENGTH CONTRACTED FOR (FEET)
	State	Town			
Lee	\$3,400 00	\$1,700 00	\$1,700 00	Bituminous macadam . . .	1,300
Lee	6,000 00	3,000 00	3,000 00	Grading and drainage . . .	4,850
Lee	2,200 00	1,100 00	1,100 00	Bridge and approaches . . .	—
Lenox	4,250 00	2,125 00	2,125 00	Bituminous macadam . . .	1,750
Lenox	750 00	375 00	375 00	Gravel	1,000
Monterey	2,000 00	1,000 00	1,000 00	Gravel and tar	1,150
Mount Washington	1,500 00	500 00	1,000 00	Gravel	950
New Ashford	425 00	212 50	212 50	Gravel	2,200
New Ashford	1,080 00	540 00	540 00	Gravel	750
New Marlborough	2,550 00	1,275 00	1,275 00	Stone retread and gravel . . .	4,000
New Marlborough	2,550 00	1,275 00	1,275 00	Gravel, gravel and tar and stone retread	8,900
New Marlborough	1,218 00	1,218 00	564 00	Gravel	1,750
New Marlborough	1,482 00	1,482 00	686 00	Gravel	9,000
North Adams	8,500 00	6,000 00	6,000 00	Penolithic pavement	4,438
Otis	2,375 00	1,187 50	1,187 50	Gravel	1,450
Pittsfield	10,625 00	5,312 50	5,312 50	Reinforced cement concrete and bituminous macadam (widening)	2,950
Pittsfield	10,625 00	5,312 50	5,312 50	Penolithic pavement	5,135
Richmond	2,725 00	1,362 50	1,362 50	Gravel	1,400
Richmond	1,062 50	531 25	531 25	Repairs and oiling	13,200
Sandisfield	5,000 00	2,500 00	2,500 00	Gravel	2,300
Savoy	2,000 00	500 00	1,500 00	Gravel	1,180
Sheffield	3,150 00	1,575 00	1,575 00	Stone retread and gravel and tar	3,200
Sheffield	850 00	425 00	425 00	Grading and drainage	850
Stockbridge	7,650 00	3,825 00	3,825 00	Bituminous macadam	2,225
Tyringham	4,000 00	2,000 00	2,000 00	Bridge repairs-gravel and tar .	2,550
Washington	6,450 00	1,500 00	2,000 00	Gravel and oiling	14,350
West Stockbridge	2,500 00	1,250 00	1,250 00	Stone retread	5,100
West Stockbridge	3,500 00	1,750 00	1,750 00	Gravel and asphalt emulsion .	2,900
Williamstown	6,400 00	4,950 00	1,450 00	Gravel and stone retread . . .	10,964
Williamstown	7,550 00	4,150 00	3,400 00	Bituminous macadam	1,706
Windsor	1,000 00	500 00	500 00	Gravel	700
Windsor	1,000 00	500 00	500 00	Gravel	600
<i>Bristol County</i>					
Acushnet	\$255 00	\$255 00	\$255 00	Repairs and oiling	20,819
Berkley-Dighton	10,500 00	5,000 00	5,000 00	Bridge	—
Berkley	1,000 00	1,000 00	1,000 00	Repairs and oiling	46,936
Dartmouth	36,125 00	21,225 00	21,225 00	Bridge and approaches	—
Easton	5,100 00	5,100 00	—	Gravel and tar	4,965
Fairhaven	850 00	850 00	850 00	Repairs and oiling	28,195
Freetown	850 00	850 00	850 00	Repairs and oiling	62,527
Mansfield	2,210 00	2,210 00	—	Gravel and tar	1,100
Norton	425 00	425 00	425 00	Repairs and oiling	23,194
Raynham	500 00	500 00	500 00	Repairs and oiling	16,080
Rehoboth	680 00	680 00	680 00	Repairs and oiling	49,437
Rehoboth	2,550 00	2,550 00	—	Gravel	1,400
<i>Dukes County</i>					
Tisbury	\$1,000 00	\$1,000 00	—	Repairs and oiling	13,500
<i>Essex County</i>					
Amesbury	\$12,750 00	\$6,375 00	\$6,375 00	Gravel and tar and bituminous macadam-reinforced cement concrete widening	8,963
Amesbury	850 00	850 00	—	Repairs and oiling	17,350
Andover	7,450 00	3,725 00	3,725 00	Grading and drainage	4,250
Andover	1,200 00	1,200 00	—	Repairs and oiling	9,880
Beverly	3,500 00	1,750 00	1,750 00	Bituminous macadam	1,100
Boxford	1,700 00	850 00	850 00	Stone retread	1,100
Boxford	1,700 00	850 00	850 00	Stone retread	900
Boxford	2,000 00	2,000 00	—	Repairs and oiling	25,250
Danvers	1,650 00	1,650 00	—	Repairs and oiling	8,300
Essex	2,000 00	1,000 00	1,000 00	Repairs and oiling	14,244
Georgetown	4,250 00	2,125 00	2,125 00	Gravel and tar	3,800
Georgetown	3,000 00	375 00	1,500 00	Gravel and tar, repairs and oiling	5,000
Gloucester	5,000 00	5,000 00	—	Bituminous macadam	1,800
Groveland	1,500 00	200 00	750 00	Gravel and tar	700
Hamilton	8,500 00	4,250 00	4,250 00	Bituminous macadam	2,450
Haverhill	6,375 00	3,187 50	3,187 50	Bituminous macadam	1,664
Ipswich	5,100 00	2,550 00	2,550 00	Stone retread, repairs and oiling	40,750
Lynn	19,125 00	9,562 50	9,562 50	Bituminous macadam	4,150
Lynnfield	5,100 00	2,550 00	2,550 00	Bituminous macadam	2,400
Lynnfield	1,000 00	500 00	500 00	Bituminous macadam	150
Manchester	24,437 50	4,250 00	13,812 50	Grading and drainage	1,650
Marblehead	11,900 00	5,950 00	5,950 00	Bituminous macadam	5,281
Merrimac	14,025 00	2,125 00	5,100 00	Bituminous macadam	2,292
Methuen	1,000 00	1,000 00	—	Repairs and oiling	6,306
Middleton	1,500 00	1,500 00	—	Repairs and oiling	18,532
Newbury	4,675 00	2,000 00	2,000 00	Penolithic pavement	1,810
Newbury	4,675 00	2,000 00	2,000 00	Gravel and tar	3,285
Newbury	1,500 00	1,500 00	—	Repairs and oiling	24,900

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD	LENGTH CON- TRACTED FOR (FEET)
	State	Town			
North Andover . . .	\$5,950 00	\$2,975 00	\$2,975 00	Bridge-stone and cut-back as- phalt mixed in place . . .	2,550
Peabody	17,000 00	8,500 00	8,500 00	Bituminous macadam . . .	5,650
Peabody	1,870 00	935 00	935 00	Grading and drainage . . .	402
Rockport	2,500 00	1,250 00	1,250 00	Bituminous macadam . . .	115
Swampscott	10,200 00	5,100 00	5,100 00	Repairs and oiling	15,800
Topsfield	4,420 00	680 00	1,700 00	Bituminous concrete	2,554
Topsfield	1,062 50	765 00	531 25	Grading and oiling	1,650
West Newbury	850 00	850 00	—	Grading and drainage	1,600
West Newbury	5,950 00	2,975 00	2,975 00	Repairs and oiling	6,500
West Newbury	1,500 00	200 00	750 00	Stone and cut-back asphalt mixed in place	2,800
West Newbury				Repairs and oiling	8,020
<i>Franklin County</i>					
Ashfield	850 00	425 00	425 00	Gravel	1,585
Ashfield	1,275 00	850 00	425 00	Gravel and tar (widening) . .	400
Bernardston	1,700 00	850 00	850 00	Gravel and tar mixed in place .	1,200
Buckland	3,400 00	2,550 00	850 00	Bridge repairs—gravel and tar mixed in place	2,300
Charlemont	1,700 00	850 00	850 00	Stone and cut-back asphalt mixed in place	6,000
Colrain	2,550 00	1,700 00	850 00	Stone and tar mixed in place . .	2,900
Conway	2,550 00	1,700 00	850 00	Bituminous macadam	1,100
Deerfield	1,700 00	850 00	850 00	Gravel	2,100
Erving	722 50	361 25	361 25	Bituminous macadam	1,000
Erving	977 50	488 75	488 75	Bituminous macadam	700
Gill	1,700 00	850 00	850 00	Gravel	1,000
Greenfield	9,350 00	8,500 00	850 00	Gravel and tar mixed in place .	1,800
Hawley	850 00	425 00	425 00	Bituminous macadam	2,650
Hawley	850 00	425 00	425 00	Gravel	800
Heath	1,700 00	850 00	859 00	Gravel	300
Leverett	1,700 00	850 00	850 00	Gravel	1,500
Leyden	1,700 00	850 00	850 00	Gravel and tar	6,000
Monroe	3,400 00	2,550 00	850 00	Bituminous macadam	1,600
Montague	6,800 00	5,950 00	850 00	Bridge—gravel	850
Montague-Greenfield .	5,000 00	—	850 00	Bituminous macadam	2,807
New Salem	1,700 00	850 00	5,000 00	Bridge repairs	—
New Salem	1,000 00	1,000 00	850 00	Gravel	1,350
Northfield	1,700 00	850 00	—	Repairs and oiling	17,600
Orange	2,550 00	1,700 00	850 00	Bridge and approaches	—
Rowe	2,550 00	1,275 00	850 00	Gravel and tar	1,200
Shelburne	1,275 00	850 00	850 00	Gravel	1,350
Shelburne	1,275 00	850 00	425 00	Bituminous macadam	675
Shutesbury	1,700 00	850 00	425 00	Bituminous macadam	1,500
Sunderland	4,000 00	1,000 00	850 00	Gravel and gravel and tar mixed in place	5,532
Warwick	1,700 00	850 00	1,000 00	Grading and drainage	2,250
Wendell	3,400 00	2,550 00	850 00	Gravel	1,050
Wendell	1,275 00	1,275 00	—	Gravel and gravel and tar mixed in place	3,331
Whately	1,700 00	850 00	850 00	Repairs and oiling	18,480
				Bituminous macadam	1,100
<i>Hampden County</i>					
Agawam	\$12,375 00	\$7,250 00	\$5,125 00	Bituminous macadam	5,256
Agawam	5,000 00	2,500 00	2,500 00	Bituminous concrete	2,900
Agawam	9,000 00	4,500 00	4,500 00	Gravel and tar	12,566
Agawam	637 50	637 50	637 50	Grading and oiling	6,000
Blandford	3,825 00	1,700 00	2,125 00	Gravel and stone retreat . . .	4,390
Brimfield	425 00	425 00	425 00	Repairs and oiling	27,082
Brimfield	3,400 00	1,700 00	1,700 00	Grading and drainage	2,550
Brimfield	340 00	340 00	340 00	Gravel and tar mixed in place .	1,700
Chester	5,950 00	850 00	5,100 00	Bridge abolition	—
Chester	2,550 00	425 00	1,912 50	Stone retreat and gravel . . .	4,350
East Longmeadow . . .	8,500 00	4,250 00	4,250 00	Stone retreat	5,350
East Longmeadow . . .	425 00	425 00	4,250 00	Bituminous macadam	4,050
Granville	5,100 00	2,550 00	2,550 00	Gravel and tar mixed in place .	3,200
Hampden	2,550 00	1,020 00	1,530 00	Bituminous macadam	1,400
Hampden	1,700 00	680 00	1,020 00	Bituminous macadam (widening) and oiling	5,000
Hampden	425 00	425 00	425 00	Bituminous macadam	1,000
Holland	3,400 00	850 00	2,720 00	Repairs and oiling	10,000
Holland	425 00	425 00	425 00	Grading and drainage	1,850
Holyoke	2,975 00	1,487 50	1,487 50	Gravel and tar mixed in place .	2,600
Longmeadow	6,375 00	4,250 00	2,125 00	Repairs and oiling	18,600
Ludlow	3,400 00	1,700 00	1,700 00	Bituminous macadam	1,900
Ludlow	4,000 00	2,000 00	2,000 00	Gravel and cut-back asphalt mixed in place	3,800
Monson	3,400 00	1,700 00	1,700 00	Bituminous macadam	1,750
Monson	425 00	425 00	425 00	Bituminous macadam	2,000
Montgomery	2,550 00	850 00	2,550 00	Gravel and tar mixed in place .	2,300
Palmer	17,800 00	15,038 10	15,000 00	Repairs and oiling	3,693
Palmer	4,000 00	3,000 00	3,000 00	Gravel	1,575
				Bituminous macadam	9,825
				Bridge and approaches	—

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD	LENGTH CON-TRACTED FOR (FEET)
	State	Town			
Palmer	\$850 00	\$425 00	\$425 00	Granite curbing	937
Russell	425 00	425 00	425 00	Gravel	550
Southwick	4,250 00	1,700 00	2,550 00	Bituminous macadam	2,250
Springfield	21,250 00	10,625 00	10,625 00	Bituminous macadam and bi- tuminous concrete	6,587
Tolland	4,250 00	1,700 00	2,550 00	Gravel and stone retread	6,300
Wales	2,550 00	850 00	1,700 00	Grading and drainage	1,950
Wales	255 00	255 00	255 00	Gravel and tar mixed in place	1,300
Westfield	4,250 00	2,125 00	2,125 00	Repairs and oiling	10,550
Westfield	850 00	850 00	850 00	Bituminous macadam	5,000
Westfield	1,500 00	750 00	750 00	Repairs and oiling	18,555
West Springfield	3,400 00	1,700 00	1,700 00	Concrete curbing	3,350
West Springfield	7,650 00	3,825 00	3,825 00	Reinforced cement concrete	1,851
Wilbraham	510 00	510 00	510 00	Bituminous macadam	2,749
Wilbraham	3,400 00	1,700 00	1,700 00	Bituminous macadam	403
Wilbraham	3,400 00	1,700 00	1,700 00	Bituminous macadam	4,100
Wilbraham	3,400 00	1,700 00	1,700 00	Bituminous macadam	1,450
<i>Hampshire County</i>					
Ataherst	15,200 00	10,800 00	4,400 00	Bituminous macadam	2,890
Belchertown	13,812 50	3,187 50	4,250 00	Grading and drainage	310
Belchertown	2,000 00	5,450 00	600 00	Bituminous macadam	3,659
Chesterfield	850 00	425 00	425 00	Drainage	1,200
Chesterfield	850 00	425 00	425 00	Gravel	600
Chesterfield	850 00	425 00	425 00	Gravel	650
Cummington	2,125 00	1,275 00	850 00	Gravel and tar	500
Cummington	850 00	425 00	425 00	Gravel	1,300
Enfield	850 00	425 00	425 00	Gravel and gravel and tar mixed in place	800
Goshen	850 00	425 00	425 00	Repairs and oiling	17,424
Goshen	850 00	425 00	425 00	Gravel	650
Goshen	850 00	425 00	425 00	Gravel	600
Greenwich	425 00	212 50	212 50	Repairs and oiling	8,448
Hadley	15,300 00	7,650 00	7,650 00	Bridge and approaches	—
Huntington	4,000 00	2,000 00	2,000 00	Gravel	2,700
Middlefield	1,700 00	850 00	850 00	Gravel	1,000
Middlefield	850 00	425 00	425 00	Gravel	450
Northampton	4,250 00	4,250 00	1,700 00	Bituminous macadam	3,183
Northampton	3,825 00	2,550 00	1,275 00	Bituminous macadam	2,600
Pelham	7,980 00	2,020 00	1,700 00	Bituminous macadam	2,600
Plainfield	1,700 00	850 00	850 00	Gravel and tar	1,200
Southampton	850 00	425 00	425 00	Stone retread	1,120
Ware	3,400 00	1,700 00	1,700 00	Bituminous macadam	1,355
Westhampton	1,275 00	637 50	637 50	Gravel	800
Williamsburg	1,700 00	850 00	850 00	Stone retread	2,210
Worthington	1,700 00	850 00	850 00	Gravel	650
Worthington	1,700 00	850 00	850 00	Gravel	1,000
<i>Middlesex County</i>					
Acton	3,187 50	2,125 00	1,062 50	Gravel and asphaltic oil	3,300
Acton	1,700 00	1,700 00	1,700 00	Repairs and oiling	97,416
Arlington	10,000 00	5,450 00	5,450 00	Bituminous concrete	3,961
Ashby	1,275 00	425 00	850 00	Gravel and tar	1,500
Ashby	510 00	255 00	510 00	Repairs and oiling	17,952
Ashland	850 00	850 00	850 00	Repairs and oiling	30,096
Ashland	2,000 00	1,000 00	1,000 00	Grading and drainage	1,300
Ayer	1,275 00	1,275 00	1,275 00	Repairs and oiling	50,054
Ayer	7,000 00	3,500 00	3,500 00	Bituminous macadam	1,025
Bedford	2,300 00	2,300 00	2,300 00	Bituminous macadam (widening)	1,975
Bedford	2,000 00	300 00	1,700 00	Repairs and oiling	46,464
Bedford	2,720 00	1,700 00	1,020 00	Bituminous macadam	1,000
Bedford	2,550 00	1,020 00	1,530 00	Bituminous macadam	1,700
Bedford	200 00	200 00	200 00	Bituminous macadam	605
BillERICA	2,550 00	2,550 00	2,550 00	Bridge painting	—
BillERICA	3,400 00	2,125 00	1,275 00	Repairs and oiling	95,251
BillERICA	3,825 00	2,550 00	1,275 00	Gravel and tar	2,575
Boxborough	850 00	850 00	850 00	Bituminous macadam	1,200
Boxborough	850 00	425 00	425 00	Repairs and oiling	40,656
Boxborough	600 00	200 00	400 00	Gravel and asphaltic oil	1,000
Burlington	2,125 00	2,125 00	2,125 00	Gravel and tar	1,256
Burlington	3,400 00	1,700 00	1,700 00	Repairs and oiling	73,920
Burlington	2,000 00	1,000 00	1,000 00	Gravel and tar	4,000
Burlington	2,000 00	1,000 00	1,000 00	Gravel and asphaltic oil	1,700
Carlisle	2,000 00	2,000 00	2,000 00	Repairs and oiling	64,944
Carlisle	3,700 00	2,000 00	1,700 00	Grading and drainage	12,277
Carlisle	200 00	200 00	200 00	Bridge painting	—
Chelmsford	1,700 00	1,700 00	1,700 00	Repairs and oiling	82,156
Chelmsford	5,000 00	2,500 00	2,500 00	Bituminous concrete	6,200
Concord	12,750 00	8,500 00	4,250 00	Bituminous concrete and bi- tuminous macadam	3,605
Concord	600 00	600 00	600 00	Bituminous macadam (widening)	1,112
Dracut	3,000 00	3,000 00	3,000 00	Repairs and oiling	56,232
Dunstable	1,487 50	1,487 50	1,487 50	Repairs and oiling	50,160
Dunstable	2,125 00	850 00	1,275 00	Repairs and oiling	15,840
Framingham	13,500 00	9,283 34	4,216 66	Penolithic pavement	2,452
Framingham	17,950 00	11,966 66	5,983 34	Bituminous macadam	6,823

COUNTIES AND TOWNS	CONTRIBUTION		County	TYPE OF ROAD	LENGTH CON- TRACTED FOR (FEET)
	State	Town			
Groton	\$2,975 00	\$2,975 00	\$2,975 00	Repairs and oiling	52,377
Groton	5,100 00	2,550 00	2,550 00	Gravel and tar	3,100
Holliston	1,275 00	1,275 00	1,275 00	Repairs and oiling	36,432
Holliston	2,550 00	850 00	1,700 00	Gravel and tar	2,500
Hopkinton	1,775 00	1,775 00	1,775 00	Repairs and oiling	70,224
Hudson	850 00	850 00	850 00	Repairs and oiling	52,113
Hudson	11,745 00	7,830 00	3,915 00	Bituminous macadam	2,308
Hudson	2,550 00	1,700 00	850 00	Bituminous macadam	800
Lexington	15,000 00	10,000 00	5,000 00	Bituminous macadam	3,045
Lexington	10,712 50	9,200 00	4,137 50	Bituminous macadam	4,080
Lincoln	850 00	850 00	850 00	Repairs and oiling	36,960
Lincoln	2,550 00	1,275 00	1,275 00	Bituminous macadam and gravel (widening)	17,424
Littleton	1,785 00	1,785 00	1,785 00	Repairs and oiling	57,024
Littleton	2,550 00	1,275 00	1,275 00	Gravel and tar	3,000
Littleton	500 00	500 00	500 00	Drainage	1,660
Lowell	12,750 00	8,500 00	4,250 00	Bituminous concrete	3,706
Lowell	10,200 00	6,800 00	3,400 00	Bituminous concrete	1,544
Lowell	6,375 00	4,250 00	2,125 00	Bituminous concrete	1,400
Malden	52,500 00	30,000 00	25,000 00	Bridge and approaches	—
Maynard	17,000 00	11,050 00	5,950 00	Bituminous macadam	4,990
Medford	46,750 00	30,000 00	25,000 00	Bituminous concrete	7,475
Melrose	13,335 36	15,300 00	8,500 00	Sheet asphalt	3,727
Melrose	12,100 00	10,200 00	5,100 00	Bituminous macadam	4,165
Natick	1,275 00	1,275 00	1,275 00	Repairs and oiling	53,275
Natick	8,500 00	4,250 00	4,250 00	Bituminous concrete	1,720
Natick	9,250 00	4,625 00	4,625 00	Bituminous concrete	1,892
Natick	1,700 00	850 00	850 00	Gravel and tar	735
Newton	51,000 00	38,250 00	21,250 00	Bituminous concrete	8,415
North Reading	1,700 00	1,700 00	1,700 00	Repairs and oiling	52,272
North Reading	3,400 00	2,550 00	1,275 00	Bituminous macadam	2,400
Pepperell	2,550 00	1,700 00	850 00	Gravel and tar	1,988
Pepperell	2,550 00	2,550 00	2,550 00	Repairs and oiling	81,312
Sherborn	2,125 00	2,125 00	2,125 00	Repairs and oiling	74,448
Sherborn	12,750 00	4,250 00	8,500 00	Bituminous macadam	3,750
Sherborn	3,000 00	1,500 00	1,500 00	Bituminous macadam	800
Shirley	1,700 00	1,700 00	1,700 00	Repairs and Oiling	51,216
Shirley	6,800 00	3,400 00	3,400 00	Gravel and tar	6,400
Stoneham	10,200 00	6,800 00	3,400 00	Penolithic pavement	3,995
Stoneham	2,000 00	1,000 00	1,000 00	Bituminous macadam	930
Stoneham	500 00	500 00	500 00	Bituminous macadam	275
Stow	1,275 00	1,275 00	1,275 00	Repairs and oiling	41,184
Sudbury	2,000 00	2,000 00	2,000 00	Repairs and oiling	81,840
Tewksbury	1,700 00	1,700 00	1,700 00	Repairs and oiling	45,408
Tewksbury	5,100 00	2,975 00	2,125 00	Bituminous macadam	2,100
Tewksbury	2,500 00	1,250 00	1,250 00	Bituminous macadam	1,500
Tewksbury	3,725 00	2,075 00	1,650 00	Gravel and tar	3,000
Townsend	1,700 00	1,700 00	1,700 00	Repairs and oiling	36,432
Townsend	2,550 00	850 00	1,700 00	Gravel and asphaltic oil	3,000
Tyngsborough	2,125 00	2,125 00	2,125 00	Repairs and oiling	77,616
Tyngsborough	1,700 00	850 00	1,700 00	Gravel and tar	2,100
Tyngsborough	1,700 00	850 00	850 00	Gravel and tar	2,100
Tyngsborough	400 00	200 00	400 00	Gravel and tar	600
Wakefield	850 00	850 00	850 00	Repairs and oiling	40,392
Wakefield	3,400 00	1,700 00	1,700 00	Bituminous macadam	400
Wakefield	6,800 00	4,250 00	2,550 00	Bituminous macadam	2,000
Waltham	42,500 00	21,250 00	21,250 00	Bituminous concrete	300
				Bituminous macadam	6,600
				Grading	5,928
Wayland	2,125 00	2,125 00	2,125 00	Repairs and oiling	52,800
Wayland	7,650 00	5,100 00	2,550 00	Bituminous macadam	3,290
Westford	2,550 00	1,275 00	1,275 00	Gravel and tar	2,000
Westford	450 00	225 00	225 00	Gravel and tar	739
Westford	3,333 33	3,333 33	3,333 34	Repairs and oiling	140,448
Wilmington	850 00	850 00	850 00	Repairs and oiling	38,016
Wilmington	2,550 00	1,700 00	850 00	Gravel and tar	1,900
Winchester	25,500 00	17,000 00	8,500 00	Bituminous concrete	4,975
Winchester	12,750 00	8,500 00	4,250 00	Bridge and approaches	—
Woburn	25,500 00	17,000 00	8,500 00	Bituminous concrete	7,462

Norfolk County

Avon	5,525 00	5,525 00	—	Penolithic pavement	2,300
Bellingham	2,252 50	425 00	1,126 25	Repairs and oiling	21,270
Canton	850 00	850 00	850 00	Repairs and oiling	24,816
Foxborough	2,125 00	2,125 00	N.H.R.R.	Gravel and tar	1,500
Foxborough-Walpole	2,350 00	850 00	1,275 00	Gravel and tar mixed in place	2,005
Franklin	850 00	850 00	850 00	Repairs and oiling	65,049
Franklin	5,950 00	5,950 00	—	Gravel and tar	4,150
Franklin	4,250 00	4,250 00	—	Gravel and tar	4,250
Holbrook	425 00	425 00	425 00	Repairs and oiling	29,462
Medfield	850 00	850 00	850 00	Repairs and oiling	32,404
Medway	850 00	850 00	850 00	Repairs and oiling	5,000
Millis	850 00	850 00	850 00	Repairs and oiling	43,363
Millis	2,125 00	2,125 00	—	Bituminous macadam	682
Norfolk	850 00	850 00	850 00	Repairs and oiling	37,683
Norwood	10,000 00	10,000 00	—	Bituminous concrete	3,950

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD	LENGTH CONTRACTED FOR (FEET)
	State	Town			
Randolph	\$850 00	\$850 00	\$850 00	Repairs and oiling	14,625
Sharon	850 00	850 00	850 00	Repairs and oiling	46,464
Stoughton	425 00	425 00	425 00	Repairs and oiling	29,145
Walpole	3,025 00	3,025 00	—	Bituminous macadam	1,070
Walpole	6,290 00	6,290 00	—	Bituminous macadam	2,150
Weymouth	12,750 00	12,750 00	—	Bituminous concrete	3,920
Wrentham	3,400 00	3,400 00	—	Gravel and tar	3,035
Wrentham	3,400 00	3,400 00	—	Gravel and tar	3,000
Wrentham	1,000 00	1,000 00	1,000 00	Repairs and oiling	15,863
<i>Plymouth County</i>					
Abington	7,225 00	3,612 50	3,612 50	Bituminous macadam	2,691
Abington	1,700 00	1,700 00	—	Bituminous concrete sidewalk and concrete curbing	1,700
Bridgewater	15,300 00	7,650 00	7,650 00	Bituminous macadam	3,450
Brockton	17,000 00	17,000 00	—	Bituminous macadam	6,200
Carver	3,400 00	1,700 00	1,700 00	Gravel and tar mixed in place	2,800
East Bridgewater	9,350 00	4,675 00	4,675 00	Penolithic pavement	3,980
Halifax	5,950 00	2,975 00	2,975 00	Gravel and tar	7,282
Kingsdon	6,375 00	3,187 50	3,187 50	Bituminous macadam and gravel and tar mixed in place	3,203
Marion	3,825 00	1,912 50	1,912 50	Penolithic pavement	2,364
Marshfield	5,100 00	2,550 00	2,550 00	Penolithic pavement	2,510
Pembroke	3,400 00	1,700 00	1,700 00	Gravel and tar mixed in place	4,000
Plymouth	5,950 00	2,975 00	2,975 00	Gravel and tar mixed in place	8,000
Plymouth	1,275 00	637 50	637 50	Bridge	—
Plympton	800 00	300 00	500 00	Gravel and tar	2,800
Rochester	5,100 00	2,550 00	2,550 00	Gravel and tar	9,510
Rockland	3,400 00	1,700 00	1,700 00	Bituminous macadam	850
Rockland	4,250 00	2,125 00	2,125 00	Penolithic pavement	1,800
West Bridgewater	5,100 00	2,550 00	2,550 00	Gravel and tar	3,800
Whitman	10,200 00	6,000 00	5,550 00	Bituminous macadam	3,800
<i>Worcester County</i>					
Ashburnham	1,487 50	850 00	1,487 50	Repairs and oiling	39,340
Athol	425 00	425 00	425 00	Repairs and oiling	16,000
Barre	7,650 00	4,250 00	3,400 00	Gravel and tar mixed in place	6,200
Barre	500 00	500 00	500 00	Repairs and oiling	39,900
Berlin	6,375 00	2,975 00	3,400 00	Gravel and tar mixed in place	3,000
Berlin	2,125 00	850 00	2,125 00	Repairs and oiling	45,815
Blackstone	5,100 00	2,550 00	2,550 00	Stone and tar mixed in place	3,427
Blackstone	850 00	850 00	850 00	Repairs and oiling	41,115
Blackstone	4,000 00	2,000 00	2,000 00	Gravel and tar mixed in place	3,900
Bolton	5,950 00	1,700 00	4,250 00	Penolithic pavement	2,800
Bolton	850 00	425 00	850 00	Repairs and oiling	32,544
Boylston	3,400 00	1,700 00	1,700 00	Gravel and tar mixed in place	2,500
Boylston	680 00	425 00	680 00	Repairs and oiling	50,866
Brookfield	2,550 00	850 00	1,700 00	Gravel and tar mixed in place	2,000
Brookfield	425 00	425 00	425 00	Repairs and oiling	21,775
Charlton	2,805 00	1,275 00	1,530 00	Gravel and tar mixed in place	2,175
Charlton	1,955 00	850 00	1,105 00	Grading and drainage	4,849
Clinton	8,500 00	2,125 00	—	Stone and tar mixed in place	2,900
Clinton	2,375 00	3,137 00	2,650 00	Trap rock and tar mixed in place	2,000
Dana	1,700 00	425 00	850 00	Gravel and tar mixed in place	1,500
Dana	1,275 00	425 00	850 00	Gravel and tar (widening)	6,300
Dana	850 00	850 00	850 00	Repairs and oiling	76,950
Douglas	4,250 00	2,125 00	2,125 00	Gravel and tar mixed in place	3,900
Dudley	2,700 00	1,350 00	1,350 00	Gravel and tar mixed in place	3,321
Dudley	4,100 00	2,050 00	2,050 00	Gravel and tar mixed in place	2,000
Dudley	340 00	340 00	340 00	Repairs and oiling	9,250
East Brookfield	1,870 00	935 00	935 00	Bridge and approaches	—
Fitchburg	12,750 00	6,375 00	6,375 00	Bituminous macadam	4,267
Fitchburg	11,050 00	5,525 00	5,525 00	Stone and tar mixed in place	4,450
Grafton	6 375 00	3,187 50	3,187 50	Bituminous macadam	2,000
Grafton	3,000 00	3,000 00	3,000 00	Repairs and oiling	31,608
Hardwick	3,400 00	1,190 00	2,210 00	Gravel and tar mixed in place	2,900
Hardwick	1,105 00	1,105 00	1,105 00	Repairs and oiling	42,550
Harvard	1,275 00	1,275 00	1,275 00	Repairs and oiling	36,457
Holden	8,500 00	4,250 00	4,250 00	Grading and drainage	6,187
Holden	850 00	850 00	850 00	Repairs and oil	35,388
Hubbardston	2,550 00	850 00	1,700 00	Gravel and tar mixed in place	2,200
Hubbardston	1,700 00	425 00	1,275 00	Gravel and tar mixed in place	2,600
Hubbardston	1,190 00	595 00	1,190 00	Repairs and oiling	41,700
Leicester	5,950 00	2,150 00	2,975 00	Gravel and tar mixed in place	4,200
Leicester	850 00	850 00	850 00	Repairs and oiling	35,800
Lunenburg	5,950 00	2,295 00	3,655 00	Gravel and tar mixed in place	5,100
Lunenburg	1,487 50	1,062 50	1,487 50	Repairs and oiling	38,419
Mendon	3,300 00	1,100 00	2,200 00	Gravel and tar mixed in place	1,700
Mendon	2,000 00	1,000 00	1,000 00	Gravel and tar mixed in place	1,450
Mendon	850 00	850 00	850 00	Repairs and oiling	22,400
Milford	9,350 00	4,675 00	4,675 00	Bituminous macadam	6,450
Milford	850 00	850 00	850 00	Repairs and oiling	12,712
Milford	8,500 00	4,250 00	4,250 00	Penolithic pavement	5,200
Millbury	12,750 00	6,375 00	6,375 00	Penolithic pavement	3,000
Millville	18,000 00	—	3,000 00	2 Bridges and approaches	—
New Braintree	2,550 00	1,275 00	1,275 00	Gravel and tar mixed in place	2,200

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD	LENGTH CON-TRACTED FOR (FEET)
	State	Town			
New Braintree	\$850 00	\$425 00	\$850 00	Repairs and oiling	42,939
North Brookfield	3,000 00	1,500 00	1,500 00	Gravel and tar mixed in place	3,600
North Brookfield	2,950 00	1,475 00	1,475 00	Trap rock and tar mixed in place	713
North Brookfield	400 00	200 00	200 00	Gravel and tar mixed in place	225
Northbridge	7,650 00	4,250 00	3,400 00	Stone and tar mixed in place	6,850
Northbridge	2,550 00	1,275 00	1,275 00	Grading and drainage	1,750
Northbridge	425 00	425 00	425 00	Repairs and oiling	14,600
Oakham	4,250 00	1,700 00	2,550 00	Gravel and tar mixed in place	2,700
Oakham	1,105 00	850 00	1,105 00	Repairs and oiling	37,700
Paxton	3,825 00	1,275 00	2,550 00	Gravel and tar mixed in place	2,550
Paxton	1,360 00	680 00	1,360 00	Repairs and oiling	33,700
Petersham	1,275 00	1,275 00	1,275 00	Repairs and oiling	36,780
Princeton	1,700 00	850 00	850 00	Gravel and tar mixed in place	1,050
Princeton	3,400 00	1,700 00	1,700 00	Bridge—gravel and tar mixed in place	2,150
Princeton	1,105 00	765 00	1,105 00	Repairs and oiling	77,196
Royalston	1,062 50	425 00	637 50	Repairs	19,050
Royalston	1,700 00	1,105 00	1,700 00	Repairs and oiling	51,360
Rutland	3,400 00	2,000 00	2,000 00	Gravel and tar mixed in place	2,150
Rutland	3,400 00	1,700 00	1,700 00	Gravel and tar	1,720
Rutland	1,912 50	1,275 00	1,912 50	Repairs and oiling	45,042
Shrewsbury	850 00	850 00	850 00	Repairs and oiling	23,750
Southborough	510 00	510 00	510 00	Repairs and oiling	22,000
Southbridge	12,750 00	8,500 00	4,250 00	Penolithic pavement	4,650
Southbridge	595 00	595 00	595 00	Repairs and oiling	18,100
Spencer	11,050 00	4,250 00	6,800 00	Gravel and tar mixed in place	7,085
Spencer	680 00	680 00	680 00	Repairs and oiling	25,400
Sterling	4,675 00	1,700 00	2,975 00	Bridge—gravel and tar mixed in place	5,608
Sterling	4,675 00	1,700 00	2,975 00	Gravel and tar mixed in place	3,750
Sterling	1,020 00	680 00	1,020 00	Repairs and oiling	83,499
Sturbridge	2,550 00	850 00	1,700 00	Gravel and tar mixed in place	2,100
Sturbridge	318 75	212 50	318 75	Repairs and oiling	10,382
Sutton	7,650 00	2,000 00	5,950 00	Gravel and tar mixed in place	6,450
Sutton	510 00	510 00	510 00	Repairs and oiling	28,100
Sutton	450 00	500 00	350 00	Gravel and tar mixed in place	550
Sutton	900 00	1,000 00	750 00	Gravel and tar mixed in place	1,050
Templeton	5,100 00	2,550 00	2,550 00	Gravel and tar mixed in place	3,240
Templeton	1,275 00	1,275 00	1,275 00	Repairs and oiling	48,700
Upton	255 00	255 00	255 00	Repairs and oiling	15,650
Uxbridge	6,800 00	3,825 00	2,975 00	Gravel and tar mixed in place	2,300
Uxbridge	4,250 00	2,550 00	1,700 00	Gravel and tar mixed in place	7,635
Uxbridge	6,800 00	3,825 00	2,975 00	Grading and drainage	5,000
Uxbridge	850 00	850 00	850 00	Repairs and oiling	21,925
Warren	340 00	340 00	340 00	Repairs and oiling	17,100
Warren	4,482 50	2,241 25	2,241 25	Repairs to 2 bridges	—
Warren	4,175 00	2,087 50	2,087 50	Bridge	—
West Boylston	1,020 00	403 75	716 25	Gravel and tar mixed in place	950
West Boylston	850 00	340 00	510 00	Gravel and tar mixed in place	350
West Boylston	3,400 00	1,360 00	2,040 00	Gravel and tar mixed in place	2,750
West Boylston	3,400 00	1,360 00	2,040 00	Stone and tar mixed in place	3,345
West Boylston	1,275 00	850 00	1,275 00	Repairs and oiling	42,205
West Brookfield	2,550 00	850 00	1,700 00	Bridge and approaches	—
West Brookfield	3,825 00	1,275 00	2,550 00	Grading and drainage	2,700
West Brookfield	340 00	340 00	340 00	Repairs and oiling	39,350
Westborough	680 00	680 00	680 00	Repairs and oiling	50,269
Westminster	5,100 00	1,700 00	3,400 00	Gravel and tar mixed in place	3,072
Westminster	1,700 00	850 00	1,700 00	Repairs and oiling	67,330
Winchendon	425 00	425 00	425 00	Repairs and oiling	19,528
Worcester	42,500 00	21,250 00	21,250 00	Bituminous macadam	5,316

EXPENDITURES FOR CONSTRUCTION OF TOWN AND COUNTY WAYS

The expenditures during the year in various Counties were: —

Barnstable	\$57,209.06	Hampshire	\$121,263.67
Berkshire	210,483.69	Middlesex	598,429.18
Bristol	22,620.94	Norfolk	126,585.01
Dukes	70,282.39	Plymouth	150,481.44
Essex	272,649.10	Worcester	460,199.85
Franklin	138,404.37		
Hampden	211,977.12	Total	\$2,440,585.82

Details of the foregoing expenditures follow: —

Barnstable County. — Barnstable, \$22,661.36; Brewster, \$5,088.94; Chatham, \$5,886.03; Falmouth, \$6,241.68; Harwich, \$9,837.07; Orleans, \$7,493.98.

Berkshire County. — Adams, \$6,507.39; Alford, \$2,052.92; Becket, \$7,228.47; Cheshire, \$3,145.89; Clarksburg, \$3,295.80; Dalton, \$12,124.36; Egremont, \$3,-

701.06; Florida, \$6,592.14; Great Barrington, \$10,871.07; Hancock, \$15,099.16; Hinsdale, \$1,156.55; Lanesborough, \$6,935.58; Lee, \$7,864.73; Lenox, \$5,782.89; Monterey, \$2,312.73; Mt. Washington, \$1,734.87; New Ashford, \$2,318.88; New Marlborough, \$5,896.48; North Adams, \$2,018.91; Otis, \$2,746.12; Peru, \$1,660.64; Pittsfield, \$29,566.04; Richmond, \$4,374.43; Sandisfield, \$5,782.88; Savoy, \$2,312.67; Sheffield, \$5,790.66; Stockbridge, \$9,583.49; Tyringham, \$4,626.31; Washington, \$7,459.93; West Stockbridge, \$6,939.11; Williamstown, \$20,861.86; Windsor, \$2,139.67.

Bristol County.—Acushnet, \$294.93; Dartmouth, \$7,284.72; Easton, \$5,898.55; Fairhaven, \$983.09; Freetown, \$983.09; Mansfield, \$2,370.98; Norton, \$491.54; Raynham, \$578.29; Rehoboth, \$3,735.75.

Dukes County.—Edgartown, \$14,255.74; Gosnold, \$4,926.17; Oak Bluffs, \$24,835.80; Tisbury, \$26,264.68.

Essex County.—Amesbury, \$11,691.51; Andover, \$6,248.61; Beverly, \$3,874.54; Boxford, \$8,387.77; Danvers, \$2,196.65; Essex, \$2,313.16; Georgetown, \$8,385.19; Gloucester, \$8,674.34; Hamilton, \$7,635.79; Haverhill, \$5,381.22; Ipswich, \$5,898.55; Lawrence, \$87,944.40; Lynn, \$4,470.50; Lynnfield, \$6,909.24; Manchester, \$11,527.20; Marblehead, \$8,564.92; Merrimac, \$13,276.90; Methuen, \$1,156.58; Middleton, \$8,171.06; Newbury, \$5,650.58; North Andover, \$6,361.18; Peabody, \$15,861.82; Rockport, \$2,891.27; Salisbury, \$5,471.25; Swampscott, \$6,819.41; Topsfield, \$5,965.05; West Newbury, \$10,920.41.

Franklin County.—Ashfield, \$2,457.74; Bernardston, \$1,966.18; Buckland, \$3,932.38; Charlemont, \$1,966.18; Colrain, \$10,507.24; Conway, \$2,949.27; Deerfield, \$1,966.18; Erving, \$1,966.18; Gill, \$1,966.18; Greenfield, \$19,742.99; Hawley, \$1,966.18; Heath, \$1,966.18; Leverett, \$1,966.18; Leyden, \$1,966.18; Monroe, \$3,449.67; Montague, \$14,916.35; New Salem, \$20,497.05; Northfield, \$1,966.18; Orange, \$3,727.28; Rowe, \$2,949.27; Shelburne, \$6,997.30; Shutesbury, \$13,749.09; Sunderland, \$3,527.58; Warwick, \$1,966.18; Wendell, \$5,407.00; Whately, \$1,966.18.

Hampden County.—Agawam, \$24,871.43; Blandford, \$4,450.32; Brimfield, \$5,027.60; Chester, \$9,830.91; Chicopee, \$30,504.19; East Longmeadow, \$8,871.10; Granville, \$5,898.55; Hampden, \$5,407.00; Holland, \$8,025.93; Holyoke, \$5,767.22; Longmeadow, \$9,138.46; Ludlow, \$9,504.71; Monson, \$6,366.01; Montgomery, \$2,949.27; Palmer, \$8,958.63; Russell, \$491.54; Southwick, \$7,228.60; Springfield, \$21,875.29; Tolland, \$4,915.46; Wales, \$3,533.34; West Springfield, \$12,273.58; Westfield, \$7,633.40; Wilbraham, \$8,454.58.

Hampshire County.—Amherst, \$21,363.96; Belchertown, \$23,118.99; Chesterfield, \$2,949.27; Cummington, \$3,421.96; Easthampton, \$3,196.88; Enfield, \$983.09; Goshen, \$1,966.18; Greenwich, \$491.54; Hadley, \$11,929.31; Huntington, \$4,622.77; Middlefield, \$2,949.27; Northampton, \$9,339.37; Pelham, \$10,129.38; Plainfield, \$8,905.65; South Hadley, \$1,875.97; Southampton, \$983.05; Ware, \$5,667.23; Westhampton, \$1,474.64; Williamsburg, \$1,966.18; Worthington, \$3,928.98.

Middlesex County.—Acton, \$5,652.77; Arlington, \$14,370.57; Ashby, \$647.68; Ashland, \$7,690.65; Ayer, \$8,414.11; Bedford, \$11,184.11; Belmont, \$2,777.27; Billerica, \$14,039.25; Boxborough, \$3,180.58; Burlington, \$6,852.72; Carlisle, \$5,551.52; Chelmsford, \$9,589.21; Concord, \$13,740.03; Dracut, \$3,469.73; Dunstable, \$4,178.14; Framingham, \$27,605.90; Groton, \$9,339.19; Holliston, \$4,423.84; Hopkinton, \$2,052.76; Hudson, \$19,363.59; Lexington, \$25,150.07; Lincoln, \$4,048.02; Littleton, \$5,592.03; Lowell, \$36,722.30; Marlborough, \$493.02; Maynard, \$16,854.51; Medford, \$48,465.57; Melrose, \$22,439.83; Natick, \$22,242.55; Newton, \$31,049.49; North Reading, \$6,129.86; Pepperell, \$5,898.20; Reading, \$792.37; Sherborn, \$24,170.69; Shirley, \$9,830.03; Stoneham, \$20,565.87; Stow, \$1,474.64; Sudbury, \$2,313.13; Tewksbury, \$15,150.99; Townsend, \$4,915.46; Tyngsboro, \$6,851.08; Wakefield, \$12,598.15; Waltham, \$22,806.23; Wayland, \$10,803.59; Westford, \$8,822.88; Wilmington, \$3,932.06; Winchester, \$38,889.40; Woburn, \$15,303.54.

Norfolk County.—Avon, \$9,295.52; Bellingham, \$2,605.19; Canton, \$809.61; Dover, \$5,133.87; Foxboro, \$3,473.67; Franklin, \$14,570.15; Medfield, \$982.86; Medway, \$983.09; Millis, \$3,440.82; Norfolk, \$983.09; Norwood, \$49,868.80;

Randolph, \$647.68; Sharon, \$983.09; Stoughton, \$491.55; Walpole, \$10,773.52; Weymouth, \$11,601.80; Wrentham, \$9,940.70.

Plymouth County.—Abington, \$12,292.72; Bridgewater, \$20,698.66; Brockton, \$19,955.46; Carver, \$3,879.58; East Bridgewater, \$11,268.11; Halifax, \$13,016.37; Hanover, \$4,079.14; Kingston, \$9,664.79; Lakeville, \$1,445.49; Marion, \$4,899.65; Marshfield, \$5,664.62; Pembroke, \$3,550.68; Plymouth, \$5,840.71; Plympton, \$925.25; Rochester, \$5,898.54; Rockland, \$10,715.03; Scituate, \$343.17; West Bridgewater, \$4,975.60; Whitman, \$11,367.87.

Worcester County.—Ashburnham, \$3,744.42; Athol, \$3,972.76; Auburn, \$5,823.99; Barre, \$5,617.96; Berlin, \$12,071.75; Blackstone, \$9,002.76; Bolton, \$9,531.15; Boylston, \$8,045.06; Brookfield, \$6,305.25; Charlton, \$7,100.26; Clinton, \$11,799.44; Dana, \$6,613.49; Douglas, \$5,823.02; Dudley, \$10,420.98; East Brookfield, \$2,509.77; Fitchburg, \$11,555.66; Gardner, \$1,734.87; Grafton, \$10,150.50; Hardwick, \$7,152.76; Harvard, \$3,578.55; Holden, \$12,223.30; Hubbardston, \$4,453.56; Leicester, \$9,194.79; Lunenburg, \$10,783.87; Mendon, \$6,121.50; Milford, \$18,891.80; Millbury, \$2,205.58; Millville, \$9,301.63; New Braintree, \$6,533.43; North Brookfield, \$8,680.24; Northborough, \$578.29; Northbridge, \$17,020.59; Oakham, \$8,385.53; Paxton, \$6,427.75; Petersham, \$4,907.78; Phillipston, \$6,770.28; Princeton, \$14,822.68; Royalston, \$8,052.67; Rutland, \$11,150.09; Shrewsbury, \$12,164.67; Southborough, \$821.04; Southbridge, \$11,628.68; Spencer, \$10,937.07; Sterling, \$13,592.28; Sturbridge, \$3,664.91; Sutton, \$11,291.31; Templeton, \$10,236.66; Upton, \$294.93; Uxbridge, \$12,671.43; Warren, \$1,943.07; West Boylston, \$10,802.80; West Brookfield, \$3,964.17; Westboro, \$1,711.73; Westminster, \$8,044.63; Winchendon, \$1,224.91; Worcester, \$36,145.80.

REPAIR AND IMPROVEMENT OF PUBLIC WAYS, EXCLUSIVE OF STATE HIGHWAYS, IN CERTAIN TOWNS

(Sections 26 to 29 and 31 of Chapter 81, General Laws (Ter. Ed.) as amended by Chapter 366, Acts of 1934)

During the year the Department contracted for work to be done in the towns named in the following table, which also shows the road mileage in the towns and the allotments or contributions by the State and towns:—

Counties and Towns	Miles of Road	Allotment	
		State	Town
<i>Barnstable County</i>			
Brewster	40	\$6,000 00	\$5,000 00
Dennis	78	11,700 00	7,800 00
Eastham	42	6,300 00	3,150 00
Mashpee	27	4,050 00	2,025 00
Sandwich	67	10,050 00	6,700 00
Truro	30	4,500 00	3,750 00
Welfleet	36	5,400 00	4,500 00
<i>Berkshire County</i>			
Alford	19	2,850 00	760 00
Becket	58	8,700 00	2,320 00
Cheshire	42	6,300 00	3,150 00
Clarksburg	14	2,100 00	2,100 00
Egremont	32	4,800 00	2,400 00
Florida	43	6,450 00	3,225 00
Hancock	30	4,500 00	1,200 00
Hinsdale	35	5,250 00	2,625 00
Lanesborough	42	6,300 00	3,150 00
Monterey	52	7,800 00	2,080 00
Mount Washington	20	3,000 00	500 00
New Ashford	11	1,650 00	275 00
New Marlborough	85	12,750 00	3,400 00
Otis	45	6,750 00	1,800 00

Counties and Towns	Miles of Road	Allotment	
		State	Town
Peru	37	\$5,550 00	\$555 00
Richmond	32	4,800 00	2,400 00
Sandisfield	79	11,850 00	1,185 00
Savoy	56	8,400 00	840 00
Sheffield	77	11,550 00	3,850 00
Tyringham	25	3,750 00	1,250 00
Washington	51	7,650 00	765 00
West Stockbridge	36	5,400 00	3,600 00
Windsor	65	9,750 00	975 00
<i>Bristol County</i>			
Berkley	42	6,300 00	2,100 00
Freetown	47	7,050 00	3,525 00
Norton	57	8,550 00	5,700 00
Raynham	45	6,750 00	4,500 00
Rehoboth	109	16,350 00	8,175 00
<i>Dukes County</i>			
Chilmark	14	2,100 00	1,750 00
West Tisbury	13	1,950 00	1,950 00
<i>Essex County</i>			
Boxford	53	7,950 00	3,975 00
Georgetown	35	5,250 00	4,375 00
Groveland	30	4,500 00	4,500 00
Merrimac	31	4,650 00	3,875 00
Middleton	30	4,500 00	4,500 00
Newbury	38	5,700 00	4,750 00
Rowley	31	4,650 00	3,875 00
West Newbury	37	5,550 00	3,700 00
<i>Franklin County</i>			
Ashfield	80	12,000 00	3,200 00
Bernardston	40	6,000 00	3,000 00
Buckland	45	6,750 00	6,750 00
Charlemont	49	7,350 00	3,675 00
Colrain	84	12,600 00	4,200 00
Conway	72	10,800 00	2,880 00
Deerfield	74	11,100 00	9,250 00
Gill	34	5,100 00	2,550 00
Hawley	49	7,350 00	735 00
Heath	53	7,950 00	795 00
Leverett	38	5,700 00	1,520 00
Leyden	39	5,850 00	585 00
Monroe	18	2,700 00	2,700 00
New Salem	65	9,750 00	975 00
Northfield	66	9,900 00	4,950 00
Rowe	40	6,000 00	1,600 00
Shelburne	48	7,200 00	6,000 00
Shutesbury	38	5,700 00	950 00
Sunderland	34	5,100 00	2,550 00
Warwick	56	8,400 00	840 00
Wendell	48	7,200 00	2,400 00
Whately	40	6,000 00	3,000 00
<i>Hampden County</i>			
Blandford	78	11,700 00	1,950 00

Counties and Towns	Miles of Road	Allotment	
		State	Town
Brimfield	60	\$9,000 00	\$2,400 00
Chester	68	10,200 00	3,400 00
Granville	73	10,950 00	5,475 00
Hampden	34	5,100 00	2,550 00
Holland	31	4,650 00	465 00
Monson	101	15,150 00	10,100 00
Montgomery	27	4,050 00	675 00
Southwick	50	7,500 00	5,000 00
Tolland	40	6,000 00	600 00
Wales	25	3,750 00	1,000 00
Wilbraham	43	6,450 00	6,450 00
<i>Hampshire County</i>			
Belchertown	109	16,350 00	4,360 00
Chesterfield	59	8,850 00	1,475 00
Cummington	49	7,350 00	1,225 00
Enfield	37	5,550 00	925 00
Goshen	28	4,200 00	700 00
Granby	48	7,200 00	2,400 00
Greenwich	39	5,850 00	1,560 00
Hadley	59	8,850 00	7,375 00
Hatfield	46	6,900 00	5,750 00
Huntington	41	6,150 00	3,075 00
Middlefield	41	6,150 00	615 00
Pelham	31	4,650 00	2,325 00
Plainfield	49	7,350 00	735 00
Prescott	39	5,850 00	585 00
Southampton	56	8,400 00	2,240 00
Westhampton	50	7,500 00	750 00
Williamsburg	44	6,600 00	3,300 00
Worthington	68	10,200 00	1,700 00
<i>Middlesex County</i>			
Acton	58	8,700 00	8,700 00
Ashby	56	8,400 00	2,800 00
Ashland	38	5,700 00	5,700 00
Bedford	36	5,400 00	5,400 00
Boxborough	23	3,450 00	920 00
Burlington	34	5,100 00	5,100 00
Carlisle	42	6,300 00	3,150 00
Dracut	62	9,300 00	9,300 00
Dunstable	37	5,550 00	925 00
Holliston	50	7,500 00	7,500 00
Hopkinton	66	9,900 00	6,600 00
Littleton	42	6,300 00	6,300 00
North Reading	33	4,950 00	4,950 00
Pepperell	69	10,350 00	6,900 00
Sherborn	43	6,450 00	5,375 00
Shirley	46	6,900 00	4,600 00
Stow	43	6,450 00	3,225 00
Sudbury	64	9,600 00	6,400 00
Tewksbury	57	8,550 00	8,550 00
Townsend	70	10,500 00	7,000 00
Tyngsborough	40	6,000 00	4,000 00
Westford	85	12,750 00	10,625 00
<i>Norfolk County</i>			
Bellingham	44	6,600 00	6,600 00

Counties and Towns	Miles of Road	Allotment	
		State	Town
Medfield	41	\$6,150 00	\$6,150 00
Medway	45	6,750 00	6,750 00
Millis	42	6,300 00	6,300 00
Norfolk	41	6,150 00	4,100 00
Plainville	32	4,800 00	4,000 00
<i>Plymouth County</i>			
Carver	67	10,050 00	6,700 00
Halifax	34	5,100 00	3,400 00
Hanson	36	5,400 00	5,400 00
Lakeville	42	6,300 00	3,150 00
Norwell	47	7,050 00	4,700 00
Pembroke	49	7,350 00	6,125 00
Plympton	30	4,500 00	2,250 00
Rochester	50	7,500 00	3,750 00
<i>Worcester County</i>			
Ashburnham	75	11,250 00	5,625 00
Barre	110	16,500 00	8,250 00
Berlin	39	5,850 00	2,925 00
Bolton	53	7,950 00	2,650 00
Boylston	40	6,000 00	3,000 00
Brookfield	37	5,550 00	3,700 00
Charlton	110	16,500 00	4,400 00
Dana	43	6,450 00	1,075 00
Douglas	70	10,500 00	5,250 00
Dudley	63	9,450 00	7,875 00
East Brookfield	19	2,850 00	2,375 00
Grafton	58	10,200 00	10,200 00
Hardwick	96	14,400 00	4,800 00
Harvard	56	8,400 00	5,600 00
Holden	77	11,550 00	7,700 00
Hubbardston	75	11,250 00	1,875 00
Lancaster	58	8,700 00	7,250 00
Leicester	66	9,900 00	8,250 00
Lunenburg	66	9,900 00	4,950 00
Mendon	36	5,400 00	3,600 00
New Braintree	49	7,350 00	1,225 00
North Brookfield	69	10,350 00	6,900 00
Northborough	47	7,050 00	5,875 00
Oakham	45	6,750 00	1,125 00
Oxford	66	9,900 00	8,250 00
Paxton	29	4,350 00	2,175 00
Petersham	70	10,500 00	3,500 00
Phillipston	41	6,150 00	1,025 00
Princeton	72	10,800 00	2,880 00
Royalston	67	10,050 00	1,675 00
Rutland	68	10,200 00	3,400 00
Southborough	46	6,900 00	6,900 00
Spencer	100	15,000 00	12,500 00
Sterling	73	10,950 00	5,475 00
Sturbridge	70	10,500 00	3,500 00
Sutton	84	12,600 00	4,200 00
Templeton	63	9,450 00	7,875 00
Upton	60	9,000 00	4,500 00
Warren	71	10,650 00	7,100 00
West Boylston	36	5,400 00	5,400 00
West Brookfield	53	7,950 00	3,975 00
Westminster	77	11,550 00	5,775 00

EXPENDITURES FOR REPAIR AND IMPROVEMENT OF PUBLIC WAYS

The expenditures during the year in various counties were: —

Barnstable	\$49,956.06	Hampden	\$108,127.04
Berkshire	166,063.44	Hampshire	145,806.66
Bristol	48,878.58	Middlesex	239,830.91
Dukes	4,740.14	Norfolk	18,523.90
Essex	48,268.04	Plymouth	58,127.71
Franklin	182,685.97	Worcester	463,791.46

Total \$1,534,799.91

Details of the foregoing expenditures follow: —

Barnstable County. — Brewster, \$7,038.52; Dennis, \$11,600.52; Eastham, \$6,788.69; Mashpee, \$4,572.86; Sandwich, \$10,427.41; Truro, \$4,692.34; Wellfleet, \$4,835.72.

Berkshire County. — Alford, \$2,624.10; Becket, \$8,115.52; Cheshire, \$6,951.09; Clarksburg, \$2,255.48; Egremont, \$5,189.81; Florida, \$6,536.27; Hancock, \$5,388.67; Hinsdale, \$5,323.40; Lanesborough, \$7,636.20; Monterey, \$9,776.61; Mt. Washington, \$2,759.57; New Ashford, \$2,039.21; New Marlborough, \$16,155.73; Otis, \$8,771.69; Peru, \$6,283.85; Richmond, \$5,067.33; Sandisfield, \$13,004.54; Savoy, \$9,229.67; Sheffield, \$12,845.29; Tyringham, \$3,617.02; Washington, \$9,122.04; West Stockbridge, \$5,698.72; Windsor, \$11,671.63.

Bristol County. — Berkley, \$6,843.00; Freetown, \$7,657.64; Norton, \$9,286.93; Raynham, \$7,331.79; Rehoboth, \$17,759.22.

Dukes County. — Chilmark, \$2,535.17; West Tisbury, \$2,204.97.

Essex County. — Boxford, \$7,324.77; Essex, \$1,160.01; Georgetown, \$7,367.29; Groveland, \$4,828.47; Merrimac, \$5,050.79; Middleton, \$4,725.22; Newbury, \$5,669.64; Rowley, \$4,334.40; Topsfield, \$1,895.76; West Newbury, \$5,911.69.

Franklin County. — Ashfield, \$13,631.69; Bernardston, \$6,544.30; Buckland, \$6,951.62; Charlemont, \$8,282.20; Colrain, \$13,441.61; Conway, \$11,432.16; Deerfield, \$11,649.40; Gill, \$6,462.93; Hawley, \$7,820.57; Heath, \$8,635.22; Leverett, \$5,865.43; Leyden, \$6,327.06; Monroe, \$2,987.03; New Salem, \$11,692.30; Northfield, \$11,730.86; Rowe, \$6,571.45; Shelburne, \$7,630.49; Shutesbury, \$6,218.44; Sunderland, \$5,539.58; Warwick, \$8,445.13; Wendell, \$8,309.36; Whately, \$6,517.14.

Hampden County. — Blandford, \$12,858.50; Brimfield, \$10,714.40; Chester, \$13,663.55; Granville, \$11,893.79; Hampden, \$5,648.19; Holland, \$5,394.88; Monson, \$16,950.85; Montgomery, \$4,656.95; Southwick, \$8,064.97; Tolland, \$6,912.13; Wales, \$4,281.60; Wilbraham, \$7,087.23.

Hampshire County. — Belchertown, \$18,166.54; Chesterfield, \$9,612.79; Cummington, \$7,983.50; Enfield, \$6,707.23; Goshen, \$4,562.00; Granby, \$7,820.57; Greenwich, \$6,001.20; Hadley, \$9,612.79; Hatfield, \$7,413.25; Huntington, \$7,276.23; Middlefield, \$6,644.28; Pelham, \$4,806.39; Plainfield, \$7,847.73; Prescott, \$6,299.91; Southampton, \$9,124.00; Westhampton, \$8,146.43; Williamsburg, \$7,168.72; Worthington, \$10,613.10.

Middlesex County. — Acton, \$13,468.76; Ashby, \$11,405.00; Ashland, \$7,114.55; Bedford, \$6,408.53; Boxborough, \$4,724.93; Burlington, \$6,680.07; Carlisle, \$10,101.57; Dracut, \$12,925.67; Dunstable, \$7,874.88; Groton, \$1,683.60; Holliston, \$11,513.62; Hopkinton, \$14,880.81; Lincoln, \$706.03; Littleton, \$8,417.98; North Reading, \$6,843.00; Pepperell, \$13,631.69; Sherborn, \$9,775.72; Shirley, \$9,124.00; Stow, \$8,852.45; Sudbury, \$16,292.86; Tewksbury, \$14,337.72; Townsend, \$15,423.91; Tyngsborough, \$7,114.55; Westford, \$20,529.01.

Norfolk County. — Bellingham, \$2,471.49; Medfield, \$3,898.28; Medway, \$2,928.59; Millis, \$2,643.60; Norfolk, \$3,661.40; Plainville, \$2,920.54.

Plymouth County. — Carver, \$9,980.55; Halifax, \$6,067.30; Hanson, \$6,803.66; Lakeville, \$6,962.49; Norwell, \$7,563.15; Pembroke, \$7,795.37; Plympton, \$4,790.87; Rochester, \$8,164.32.

Worcester County. — Ashburnham, \$14,442.83; Barre, \$20,235.17; Berlin, \$6,405.89; Bolton, \$7,124.10; Boylston, \$7,953.98; Brookfield, \$7,447.73; Charlton, \$15,547.26; Dana, \$7,005.93; Douglas, \$13,512.56; Dudley, \$8,958.13; East Brook-

held, \$2,729.63; Grafton, \$11,270.79; Hardwick, \$13,974.93; Harvard, \$9,124.00; Holden, \$13,422.26; Hubbardston, \$14,053.65; Lancaster, \$9,449.86; Leicester, \$10,587.69; Lunenburg, \$14,071.94; Mendon, \$5,865.43; New Braintree, \$9,-415.75; North Brookfield, \$9,404.38; Northborough, \$7,821.05; Oakham, \$8,-261.08; Oxford, \$11,816.42; Paxton, \$4,973.40; Petersham, \$11,947.22; Philipston, \$8,839.02; Princeton, \$15,121.11; Royalston, \$11,429.56; Rutland, \$11,560.66; Southborough, \$7,727.25; Spencer, \$16,753.55; Sterling, \$14,905.07; Sturbridge, \$15,568.80; Sutton, \$15,319.49; Templeton, \$12,043.22; Upton, \$12,-512.50; Warren, \$14,899.31; West Boylston, \$6,280.78; West Brookfield, \$10,-609.41; Westborough, \$1,513.35; Westminster, \$11,885.32.

THE REGULATION OF ADVERTISING SIGNS AND DEVICES WITHIN THE PUBLIC VIEW (Sections 29-33, Chapter 93, General Laws, as amended)

In accordance with the provisions of sections 29 and 33 inclusive, chapter 93, General Laws, as amended by chapters 85, 237, 334 and 490, Acts of 1924, providing for the control of billboards and other advertising devices on public ways or on private property within public view of any highway, public park or reservation, the Department adopted on Jan. 24, 1924, certain new rules and regulations, superseding all former issues; and these have continued in force during the present year.

Applications, Licenses and Permits.—Licenses were granted to (21) individuals and others to engage in the business of advertising in the Commonwealth by the use of outdoor signs.

Of 614 applications received for permits for the erection of advertising signs, 103 permits were granted for the year, while (449) applications are being held awaiting the decision of the United States Supreme Court of the case of the General Outdoor Advertising Company and others against the Department of Public Works. Fifty-seven permits were granted on applications filed previous to 1935, while (36) applications for permits were cancelled.

Of 3,135 renewal applications sent to those whose permits were to expire June 30, 1936, 2,906 were returned to the Department requesting renewal; and on account of the advertisers failing to renew, 223 permits were cancelled. The number of renewal applications approved was 2,683. The total number of permits in force Nov. 30, 1935, was 2,783.

Receipts and Expenditures.—The total receipts for the year ending Nov. 30, 1935, were \$9,202.11 and the expenditures were \$15,253.09.

The Removal of Signs.—The "Sign Patrol" consisting of small trucks completely equipped for the work, have removed 60,000 signs during the year in addition to 5,000 removed by other agents of the Department, under authority of section 30A, Chapter 93, General Laws, from within the highways and from private property.

Injunction.—On June 19, 1925, a temporary injunction was granted to the General Outdoor Advertising Company and others, complainants in an action against the Department of Public Works, restraining the Department from enforcing its rules and regulations against the complainants as to all existing signs and advertising devices maintained by them. On Jan. 10, 1935, the Supreme Court of the Commonwealth rendered its decision in the billboard case and upheld the right of the State to regulate and restrict outdoor advertising. The injunction thereafter became legally ineffective but its terms were continued by mutual agreement pending the outcome of the complainants' appeal to the United States Supreme Court. This is the situation at present, with a prospect of an early disposition of the pending appeal, which, if favorable to the Department, will place all "injunction boards" under State Control. It is estimated that there are approximately nine thousand such boards now maintained throughout the Commonwealth.

REGISTRY OF MOTOR VEHICLES

The 1935 statistics continue the increases in the various classes of applications handled. Inquiries by telephone, by letter, and at the counter for information from records and data in the files remain heavy and the number and nature of these inquiries, although not an item showing anywhere in the reports of the Registry, account for a sizeable proportion of the work of the clerical force.

Highway safety, the ever-present problem of the Registrar, received every possible attention during the year. The required annual inspection of motor vehicles was made semi-annually and, so far as possible, particularly on week-ends and holiday periods, the services of inspectors and examiners not required on their regular work of investigating fatal and serious accidents and giving examinations were utilized on law enforcement work. In many instances, inspectors worked with the local police and in this way, and others, the police, as well as the various safety committees, continued their co-operation in matters having to do with highway safety.

The second annual rush for registration plates in the new building was carried on even more effectively than the year before and, as usual, a large detail of State police contributed to the efforts made to handle the large proportion of the public who still insisted on waiting until the last few days of the year to secure their plates.

The initial installation of the teletypewriter service of 1934, connecting the Worcester and Springfield offices with the Boston office, was extended to Pittsfield. In addition, a new line, connecting Lawrence and Lowell, was installed and later during the year the Lynn office was added. A new line, connecting Fall River and New Bedford, with the Boston office, was installed and later Quincy and Brockton were added to this line. These machines made available to these branches, and therefore to the public being served at these various branches, almost immediately, any information they may require from the records at Boston.

The Diebold system of cash guards, consisting of a cash drawer which automatically deposits money in a safe below, all equipped with holdup and burglary alarms and time-locks, were installed at all of the tellers' cages at the Boston office and also in the cashier's office. These cash drawers and strong boxes, equivalent to safes, are all hooked up to the American District Telegraph Company Burglary and Holdup Alarm System, and a number of foot and hand buttons at convenient points at the Registry counters and lobbies offer considerable protection in the case of a daylight holdup or night burglary. When an alarm is sounded all of the cash drawers close, the safes are all locked and nobody can open the safes and get at the money until the allowed period of time has elapsed, and further an alarm is sounded at the A. D. T. switchboard where, in turn, the holdup is reported to the police and over the radio and teletype, etc.

A few of the outstanding figures for the year as compared with those of the previous year are as follows:

	1934	1935
Motor vehicle certificates of registration issued	945,488	968,553
Compulsory insurance cancellation notices received	86,406	79,401
Licenses to operate issued	1,053,527	1,077,880
Examinations of applicants for licenses	83,031	82,136
Licenses and registrations revoked and suspended	52,505	52,317
Licenses revoked for driving under influence of liquor	5,717	6,264
Total number of applications handled	2,076,600	2,125,898
Gross receipts from fees	\$6,202,907.26	\$6,310,424.28

REGISTRATIONS OF PASSENGER CARS, COMMERCIAL VEHICLES AND MOTOR CYCLES

The following registration figures show a 2.47% increase in passenger registrations and a 1.74% increase in commercial registrations over the previous year, while the motor cycle registrations happened to be identical for both the years 1934 and 1935.

	1905	1915	1925	1929 ¹	1934	1935
Passenger cars	4,889	90,580	663,858	905,636	831,853	852,934
Commercial vehicles	—	12,053	100,480	113,268	112,260	114,244
Motor cycles	553	9,520	10,333	6,168	1,375	1,375
Totals	5,442	112,153	774,671	1,025,072	945,488	968,553

EXAMINATIONS FOR LICENSES

The system of examining prospective operators of motor vehicles was not changed in any respect during the year 1935, the appointment system being continued and the examination consisting of the usual demonstration on the highways, a reading test, an eye test, and a test of the applicant as to his knowledge of the motor vehicle law. The number of persons examined decreased slightly at the fifty-five examining points with the following results:—

	1934	1935
Operators passed	73,900	74,598
Operators unfit	8,037	7,058
Restriction removal, passed	1,765	1,244
Restriction removal, unfit	176	125
"Competency," passed	208	212
"Competency," unfit	37	23
Total examinations	84,123	83,260

BRANCH OFFICES

The larger branches of the Registry of Motor Vehicles are equipped with teletype machines which enable them to render practically every service to the public that is rendered at the main office in Boston, including hearings with regard to the suspension and restoration of licenses and furnishing all data from records of the central office. Each branch office serves as a headquarters for the district in which it is located, both as to the issuance and distribution of number plates and licenses, and law enforcement.

Three new offices were opened in November this year, one at Haverhill, one at Waltham, and one at Malden. The work of these branches for the few days they were open during the fiscal year is included in the figures for Boston.

The following table gives the approximate figures:—

APPROXIMATE DISTRIBUTION OF REGISTRATIONS, LICENSES, ETC.

	Regis- trations	First Licenses	License Renewals	Miscel- laneous	Totals
Boston:					
Counter	210,000	—	181,000	99,000	490,000
Mail	162,000	—	390,000	10,000	562,000
Examination	—	23,000	—	2,000	25,000
Pittsfield	22,000	2,300	20,000	6,000	50,300
Springfield	53,000	6,500	59,000	20,000	138,500
Greenfield	11,000	1,500	11,000	4,500	28,000
Northampton	13,000	1,000	12,000	4,500	30,500
Worcester	49,000	7,000	50,000	20,000	126,000
Fitchburg	19,000	1,500	17,000	6,000	43,500
Framingham	24,000	2,000	17,000	8,000	51,000
Lawrence	31,000	4,000	32,000	10,000	77,000
Lowell	23,000	3,000	23,000	7,000	56,000
Fall River	23,000	4,000	23,000	7,000	57,000
New Bedford	22,000	2,500	27,000	8,000	59,500
Lynn	50,000	7,000	48,000	16,500	121,500
Quincy	31,000	5,500	35,000	12,500	84,000
Brockton	37,000	3,000	34,000	14,500	88,500
Hyannis ²	12,000	2,000	7,000	3,500	24,500
	792,000 ⁴	75,800	986,000	259,000 ³	2,112,800

¹ Peak year.² Includes Oak Bluffs and Nantucket.³ This figure includes approximately 182,000 number plate reissues.⁴ Does not include reissues (see Miscellaneous).

COMPULSORY MOTOR VEHICLE LIABILITY INSURANCE

The following figures show the volume of papers received and notices mailed in connection with the carrying out of the law regarding compulsory motor vehicle Causes for Cancellation of Policies:

liability insurance.	1934	1935
For non-payment of premiums	56,901	61,413
For other reasons	29,505	17,988
Total	86,406	79,401
Origin of requests for Cancellation of Policies:		
Insurance companies	80,550	49,204
Finance companies	5,856	30,197
Total	86,406	79,401
Disposition of applications for cancellation:		
Replacement certificates, adjusting cancellations	7,046	6,524
Reinstatements, adjusting cancellations	40,550	43,394
Sets of plates returned before effective date of cancellation	10,432	5,080
Revocations	28,378	24,403
Total	86,406	79,401
Return of Plates:		
Returned promptly after revocation	16,481	13,503
By Police and Registry Inspectors	7,525	6,510
Not returned	4,372	4,390
Total revocations	28,378	24,403

PROPERTY DAMAGE

Under the provisions of Section 22A of Chapter 90, General Laws, the Registrar may, upon receipt of evidence satisfactory to him, suspend the license of any operator who has failed to satisfy a judgment rendered against him after sixty days in any case in which such operator is the defendant in an action brought to recover damages for injuries to property arising out of the use, operation or maintenance on the ways of the Commonwealth of a motor vehicle or trailer.

The following figures indicate the number of cases in which successful plaintiffs availed themselves of the additional facilities provided in the law for recovering damages and the action taken thereon:

	1934	1935
Complaints received	410	560
Releases received, no action being necessary	82	141
Licenses or right to operate suspended	328	419
Licenses or right to operate reinstated after suspension	138	206

AIRCRAFT

Another stride in aviation in Massachusetts was made this year when the Legislature enacted as the aviation law of Massachusetts the Uniform Aeronautical Code, repealing thereby the existing aviation statutes. Massachusetts was the 37th state in the Union to adopt the Uniform Aeronautical Code and under this law (effective October 14, 1935) every pilot and owner, both resident and non-resident, must obtain a Federal license and subsequently register such license with the state.

In the following statistics, special attention is directed to the fact that not a single fatal airplane flying accident occurred and accidents involving personal injuries dropped 20 per cent, which important improvement we attribute to rigid enforcement.

The program to have every community in the state air marked is well under way with 11 new markers already completed under the sponsorship of this section.

Close co-operation with the Bureau of Air Commerce of the Federal Government, the Governor's Committee on Aeronautics, the Federal ERA and aviation officials of other states has been accomplished, so that Massachusetts is doing everything possible to further and promote the progress of aviation within its boundaries.

The following figures summarize the work of the Aviation Section:

	1934	1935
Pilots' licenses issued	13	2
Pilots' permits issued	260	255
Pilots examined by flight tests	7	0
Pilots checked	275	275
Aircraft registered	22	12
Aircraft permits issued	242	223
Aircraft inspected	315	249
Duplicates and certified copies issued	6	2
Fees received	\$376	\$142
Suspensions of licenses and rights to fly	38	20
Aircraft grounded	76	61
Reinstatements of licenses, rights and groundings	81	58
Court prosecutions	0	2
Rulings promulgated	1	0
Airport disapproved	1	0
Survey of fields	86	25
Surveys of buildings for air marking	0	17
Air markers completed under our promotion	0	11
Investigations by aircraft inspectors	1,116	1,051
Airplane accidents	53	48
	1934	1935
Fatal accidents	3	0
Personal injury accidents	12	8
No injury accidents	38	40
Persons killed	6	0
Persons injured	20	16
Ground accidents		
Fatal accidents	0	1
Personal injury accidents	0	2
No injury accidents	13	4
Persons killed	0	1
Persons injured	0	2

INSPECTION OF MOTOR VEHICLE EQUIPMENT

Operating under new regulations made by the Registrar, two inspections of all vehicles registered in the Commonwealth were conducted at official inspection stations designated by the Registrar.

The great majority of these stations have now been operating under the supervision of the Equipment Section for a period of five or six years and, in general, perform the work honestly and efficiently. It was found necessary to cancel 118 stations because of faulty equipment work, failure to comply with instructions, or overcharging.

The inspections were held during the months of May and September. The results of the inspections confirmed the opinion previously held that one inspection a year is not enough to secure the desired results, but that by means of two inspections, motor vehicle equipment was maintained in reasonably good condition throughout the year. It was also found, as might be expected, that brakes, lights and other equipment were in better condition when inspected in September than in May. Approximately 800,000 pleasure cars, trucks, trailers and buses were inspected during each period. The results may be summarized as follows:

	May	September
O.K.	26%	36%
Foot Brake Defective	22%	17%
Emergency Brake	13%	10%
Lights	59%	49%
Horn	2%	3%
Muffler	1%	1%
Steering Gear	2%	3%
Windshield Cleaner	3%	4%
Number Plates	2%	1%

School Bus Inspections

As required by Chapter 271 of the Acts of 1932, the Equipment Section examined or supervised the inspection of all school buses operated in Massachusetts under contract with cities or towns or owned by cities or towns five times during the year, during the first weeks of January, March, May, September and November. In each case, about 775 vehicles were submitted for inspection. The inspections in January, March and May were conducted under the system which had been in effect for the three years previous, the vehicles being examined by inspectors attached to this department at various designated examining points throughout the state. The September and November inspections were made under the supervision of this Section at official inspection stations. This change in the examining system was made in order to relieve inspectors of this department for more important duties, consisting principally of enforcement and equipment work on the highways. The improvement in school bus equipment previously noted and referred to in the last annual report was continued. Many new buses have been put in operation to replace those which failed to meet the requirements of the School Bus Act, but which were protected by the provisions of that Act for a period of three years if under contract on August 26, 1932.

Brakes, Lights and Overloads

During the greater part of the year, only 18 men were regularly assigned to equipment work. Beginning early in October, however, the Registrar reduced investigating and examining work to a minimum, which permitted practically full-time services of approximately 75 men for enforcement and equipment work. That this law enforcement on the road, directed particularly to motor vehicle brakes, in conjunction with the two equipment inspections held during the year, was effective in reducing accidents was reflected in the accident statistics for the year, showing a decrease of approximately 14% in fatal accidents and 9% in non-fatal accidents. In addition to their duties in connection with the periodic inspections of motor vehicles and school buses, including the direction of the work of over two thousand official inspection stations, the inspectors assigned to equipment work did considerable road work in enforcing the laws and regulations respecting equipment. This work may be summarized as follows:

Reports of Defective Equipment	3,578
Reports of Overloading	205
Light tags issued	50,872
Brake tags issued	6,975
Reports of Vehicles not Inspected	1,389

Reports received and tags issued by the inspectors led to the revocation or suspension of 1,784 registrations for the following reasons:

Defective Brakes	1,028
Defective Lights	375
Defective Windshields	52
Failure to be Inspected	141
Overloading	19
Miscellaneous	149

Equipment Inspectors also reported 2,863 cases of improper operation for action by the Registrar, leading to suspension of license or other action.

Headlamps, Tail Lamps and Reflex Reflectors

No new headlamps were approved, but several extensions of approval were granted during the year. Approval was granted to 16 new tail lamps and 8 reflex reflectors.

MOTOR VEHICLE DEATHS, INJURIES, COLLISIONS

Deaths in connection with the operation of motor vehicles in the year 1935 numbered 795, a decrease of 126 or 13.7% as compared with the record of the previous year. A comparative table of classified fatalities, injuries and collisions in the years 1934 and 1935 is as follows:

Motor Vehicle Accidents to Persons

	Persons Killed		Persons Injured	
	1934	1935	1934	1935
Pedestrians by autos	529	471	15,761	14,306
Pedestrians by motorcycles	0	0	41	22
Pedestrians near street cars	5	3	24	49
Occupants of autos	313	265	35,187	31,750
Occupants of autos at R. R. crossings	20	14	46	36
Occupants of motorcycles	14	12	173	161
Bicycle riders	16	7	950	981
Occupants horse-drawn vehicles	4	3	226	148
Coasters on sleds	18	17	537	837
Coasters on wheels	2	3	110	131
Totals	921	795	53,055	48,421
	Children Killed		Children Injured	
	1934	1935	1934	1935
Boys	120	91	6,891	6,597
Girls	60	36	3,744	3,468
Totals	180	127	10,635	10,065

Number of Collisions

	1934	1935
Collision with pedestrian	15,888	14,619
Collision with automobile	22,015	20,143
Collision with horse-drawn vehicle	285	197
Collision with railroad train	37	29
Collision with street car	352	305
Collision with fixed object	2,299	1,961
Collision with bicycle	970	997
Non-Collisions (overturn)	804	754
Collision with motorcycle	229	187
Collision with sled	481	740
Collision with animal	103	70
Coaster on wheels	112	136
Totals	43,575	40,138
In the daytime	25,283	24,081
After dark	18,292	16,057
Totals	43,575	40,138

ACCIDENT REPORT LETTERS

As provided by section 26, chapter 90, General Laws, every operator of a motor vehicle in any manner involved in an accident in which any person is killed or injured is required to report in writing to the Registrar. The number of these formal accident reports received from operators in 1935 was 44,624 as compared

with 46,651 received in 1934. Under the requirements of section 29, chapter 90, General Laws, 18,304 similar reports of accidents were received from police departments throughout the State in 1935 as against 19,895 received in 1934. In addition, in connection with this reporting of accidents by operators during the year 1935 there were received 10,369 letters of complaint reporting improper operating, as compared with 11,115 such letters in 1934.

COMPARATIVE STATEMENT OF YEARLY REGISTRATIONS, LICENSES, DEATHS, INJURIES, REVOCATIONS AND SUSPENSIONS

Year	Automobiles Registered	Motor-Cycles Registered	Total Registrations	Number of Persons Killed	Number of Persons Injured	Licenses Issued	Total Suspensions and Revocations	For Operating Under Influence of Liquor
1910	31,360	3,358	34,718	77	963	41,259	283	22
1911	38,907	3,658	42,565	110	1,248	51,950	360	14
1912	50,132	5,034	55,166	142	1,962	66,645	546	56
1913	62,660	7,127	69,787	188	2,923	81,034	608	87
1914	77,246	8,161	85,407	229	4,010	99,532	858	131
1915	102,633	9,520	112,153	294	6,197	133,935	1,153	202
1916	136,809	10,713	147,522	315	9,131	171,596	1,396	320
1917	174,274	11,065	185,339	438	7,282	214,229	1,831	485
1918	193,497	12,862	206,359	499	8,598	235,140	2,343	553
1919	247,183	13,698	260,881	582	16,287	297,968	2,156	554
1920	304,538	15,142	319,680	481	21,182	261,539	2,944	888
1921	360,731	12,058	372,790	544	11,487	380,519	4,899	1,508
1922	449,838	11,675	461,513	522	15,277	444,173	8,369	2,460
1923	566,150	11,733	577,883	578	16,217	536,819	11,613	3,333
1924	672,315	10,778	683,093	709	19,579	620,439	14,154	4,395
1925	764,338	10,333	774,671	755	25,736	698,378	16,249	4,654
1926	826,224	9,215	835,439	705	25,351	763,951	18,705	4,863
1927	819,703	7,245	826,948	693	31,721	814,094	31,252	4,983
1928	883,595	6,656	890,251	715	42,201	870,160	40,814	5,071
1929	1,018,904	6,168	1,025,072	777	46,111	944,338	53,133	5,381
1930	1,008,476	4,642	1,013,118	795	44,279	982,795	52,954	5,052
1931	1,006,808	3,068	1,009,876	793	48,837	1,024,304	63,841	5,535
1932	921,909	1,661	923,570	768	47,658	1,014,635	73,511	4,824
1933	930,493	1,023	931,516	769	48,249	1,022,662	56,691	4,274
1934	944,113	1,375	945,488	921	53,055	1,053,527	52,505	5,717
1935	967,178	1,375	968,553	795	48,421	1,077,880	52,317	6,264

INVESTIGATIONS AND PROSECUTIONS BY INSPECTORS

Investigations were made under the direction of the Chief Inspector relative to fatal and non-fatal accidents, violations of the laws concerning brakes and headlights, inspection of garages, miscellaneous complaints, and the prosecution of motorists in court. The table below shows the wide range of these activities of the inspectors, and shows a decrease in the total number of cases handled. This decrease, however, is due to the far greater amount of enforcement work done on the road by the inspectors.

Classification of Reports

	1934	1935
Accidents, fatal	848	778
Accidents, non-fatal	5,406	5,279
General reputation	6,649	6,246
Miscellaneous	13,799	13,386
Totals	26,702	25,689
Complaints filed	14,287	15,384
Official stations inspected	9,700	13,829
Headlights, brakes, etc.	21,295	*62,962
Prosecutions	1,004	839
Amount of fines	\$26,158	\$26,870

Revocations and Suspensions

	1934	1935
Licenses suspended	10,818	12,646
Licenses revoked	4,205	4,452
Rights suspended	4,838	5,302

* Increase due in part to change to semi-annual equipment examinations.

P. D. 54		69
Rights revoked	295	285
Certificates suspended	1,592	2,966
Certificates revoked	28,549	24,561
Certificates and licenses suspended	27	26
Certificates and licenses revoked	1,947	1,849
Certificates revoked and rights suspended	141	124
Rights in Massachusetts suspended	93	106

Totals	52,505	52,317
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Resulting from investigations	12,541	13,171
Resulting from court convictions	9,886	12,394
Resulting from police complaints	1,578	1,969
Resulting from judges' complaints	8	3
Resulting from state police complaints	116	377
Resulting from insurance cancellations	28,376	24,403

Totals	52,505	52,317
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Character of Offenses

	1934	1935
Reckless and endangering life	1,570	1,774
Liquor convictions	4,927	4,917
Going away after accidents	388	385
Without authority	706	596
Racing	4	0
Improper person	5,330	5,394
Improper person, liquor	790	1,347
Improper operation	6,962	5,858
Two overspeeds	38	111
Three overspeeds	6	3
Insurance cancellations	28,376	24,403
Insurance convictions	335	352
Improper equipment, miscellaneous	146	513
Improper equipment, lights	102	357
Improper equipment, brakes	278	1,000
Failure to display stickers	73	0
Fatal accidents	847	743
Property damage cases	325	388
Other offenses	262	193
New parking violations	999	3,447
Overloading, trucks	41	19
Sixty milers	—	495
Four complaints	—	22

Totals	52,505	52,317
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Formal hearings	8,703	8,995
Court recommendations adopted: —		
Reckless and endangering	32	19
Going away after accidents	5	2
Without authority	0	0
Allowing improper person to operate	0	1
Totals	37	22

Persons whose licenses were suspended or revoked and who had to pass examination in order to have them returned .	3,621	4,620
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ANALYSIS OF COURT ABSTRACTS RECEIVED

Number of courts forwarding abstracts	95	95
Total abstracts received	48,443	51,695
Number of abstracts recording convictions	32,034	29,899

Offenses

(Analysis of convictions, not including appeals)

	1934	1935
Overspeeding	7,565	9,399
Reckless driving	8	43
Operating under influence of liquor	5,306	3,940
Using auto without authority	1,334	762
Endangering lives	2,499	1,976
Not stopping after causing injury	908	761
Without license	2,795	2,566
Without registration certificate	580	417
Unregistered vehicle	398	374
Improper display or no register number	147	198
Refusing to stop on signal	271	394
Unlighted lamps	376	287
Not signalling	3	3
Dazzling lights	0	7
Operating within 8 feet of street car	54	67
Violation of Metropolitan Park rules	292	94
Operating after suspension or revocation of license	657	496
Larceny	358	183
Manslaughter	1	4
Miscellaneous	1,303	799
Lenses not approved	0	0
No reflector	0	6
Racing	5	1
Operating after registration certificate revoked	2	3
No rear light	20	57
Not displaying lights	36	296
Passing red light	484	347
Improper lights	157	80
Brakes not as required by law	209	263
Violation of insurance law	408	401
Not slowing down approaching pedestrian	18	39
Not slowing down at intersecting way	3,980	3,859
Violation of law of road	1,723	1,657
Perjury—making false statements on license application, falsely impersonating or conspiring to obtain a license	40	22
Loaning license to another	5	11
Allowing intoxicated person to operate	4	10
No windshield cleaner	0	1
Attempted larceny	33	13
Allowing improper person to operate	55	73
Totals	32,034	29,899

USED CAR SECTION

(Motor Vehicle Identification)

The following is a résumé of the work accomplished by the Used Car Section which indexes, under engine numbers, all motor vehicles registered and reported stolen, and checks reports of sales of used cars against the stolen-vehicle records. Dealers' and repairmen's plates and registration certificates are issued by this section.

The work of the section is summarized in the following tables: —

Dealers

	1934	1935
Total number of first-class dealers reporting	1,178	1,187
Total number of second and third-class dealers reporting	568	559
Total number making reports to this office	1,746	1,746

Reports

Approximate number of notices of intended sales received daily	309	302
Approximate number of dealers' reports received daily	953	1,107

Motor Vehicles Stolen

Number stolen in Boston	5,121	4,479
Number stolen in Massachusetts (including Boston)	7,427	6,022
Number reported stolen from various sources throughout the country, including Massachusetts	21,868	20,245
Number of motor vehicles recovered through information furnished by this office	385	283

Engine and Serial Numbers

Engine numbers assigned to cars	16	13
Certificates issued authorizing the replacement of engine numbers	588	379
Certificates issued authorizing the replacement of serial numbers	252	167
Certificates issued authorizing the replacement of both engine and serial numbers	16	20
Total number of authorization certificates issued	856	566

EASTERN CONFERENCE OF MOTOR VEHICLE ADMINISTRATORS

The department was represented at meetings of the Conference held at Hartford, Conn., May 16 and 17, and New York City October 24 and 25, 1935.

Many matters of common interest to the motor vehicle administrators of the member states were studied and discussed, including programs for highway safety campaigns, methods for procuring uniform enforcement of motor vehicle laws, methods for controlling the speed of motor vehicles, instruction in high schools on motor vehicle operation, physical and mental examination of motor vehicle operators, curbing motor vehicle thefts, the problem of the drunken operator, and the procedure in suspension and revocation of operators' licenses.

The meetings resulted in beneficial gains of knowledge concerning the constantly increasing duties and problems of the administrators, and served to renew a strong spirit of cordial and helpful co-operation.

ANALYSIS OF RECEIPTS

The fees received for the year 1935, together with the number of certificates of registration issued in each classification and the number of licenses granted, etc., are shown in the following table:

Certificates of Registration:

Passenger cars (including taxicabs)	848,406	\$2,458,421	80
Commercial cars	114,244	1,282,453	42
Busses	4,528	107,830	50
Trailers	506	25,623	50
Motor cycles	1,375	1,859	75
Manufacturers or Dealers (including repairers)	3,228	9,683	00
Manufacturers or Dealers additional cars (including repairers)	18,027	54,080	00
Licenses to operate:			
Original licenses	75,807	151,567	00
Renewal licenses	1,002,073	2,003,937	50

Examinations	65,484	\$130,968 00	
Re-examinations	16,652	16,652 00	
			147,620 00
Total examinations	82,136		
Copies of certificates and licenses furnished		35,830	35,829 50
Duplicate number plates furnished		15,545	15,543 25
Miscellaneous receipts, process fees, etc.			15,975 06
Total amount of fees			\$6,310,424 28
Motor vehicle fees rebated (deducted)			64,716 68
Net fees			\$6,245,707 60
Court fines received by the Treasurer and Receiver-General ¹			43,035 83
Total receipts (not including gasoline tax ²) credited Highway Fund Account, 1935			\$6,288,743 43

¹ Beginning January 1, 1935, due to an amendment of the law (Acts of 1934, Ch. 364), the motor vehicle fines are turned over directly to the various cities and towns.

² Receipts from the gasoline tax are credited to the Highway Fund but are collected through the office of the Commissioner of Corporations and Taxation.

EXPENSES OF THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles for the year 1935 was \$1,461,200.75 which was 23% of the net fees collected. This cost, deducted from the receipts for the year, left the sum of \$4,827,542.68 available for legislative appropriation for highway work.

ANALYSIS OF EXPENDITURES FOR THE FISCAL YEAR 1935

Payrolls

Personal Services:			
Regular payroll		\$935,062 60	
Temporary employees' payroll		27,412 41	
Overtime payroll		6,434 93	
			\$968,909 94

Expenses

Supplies:			
Books, maps, etc.		\$942 93	
Typewriter supplies		1,750 56	
Adding machine repairs and supplies		25 30	
Other supplies		4,652 21	
Stationery		17,016 97	
Typewriter repairs		188 90	
Other repairs		725 21	
			\$25,302 08
Equipment and Furniture:			
Typewriter machines		\$5,926 84	
Adding machines		1,643 62	
Other machines		7,629 70	
Desks		679 01	
Bookcases, tables, etc.		662 38	
Filing cabinets		5,416 11	
Chairs		408 63	
Dictograph		1,785 85	
Soundex		27,151 32	
Headlight Equipment		1,877 72	
Diebold Installation		3,951 00	
Burglar Alarm System		261 48	
Uniforms		5,342 00	
Branches — Counters, Safe		3,168 65	
			\$65,904 31

Traveling Expenses:

Officials	\$1,400 45	
Employees	18,191 42	
Aviation	3,593 62	
Automobiles (owned by employees)	76,764 21	
Automobiles (owned by State):		
Maintenance of 12 automobiles	4,305 71	
Purchase of 1 automobile	309 48	
		\$104,564 89

Other Services and Expenses:

Expressage	\$3,899 25	
Postage	81,537 08	
Paper for printing	9,383 02	
Printing:		
Other reports	2,140 63	
Other printing	11,610 05	
Telephone	5,155 11	
Premium on Bonds of Employees	460 62	
Rent	300 00	
Cleaning and Janitor Services	837 00	
Labor	1,022 10	
Number plates	131,647 00	
Direct Mail Lists	11,000 00	
Sundries	359 25	
Branch Offices:		
Rent, Telephone, Lighting	27,194 91	
Labor and Services	6,336 75	
Supplies and Express	2,674 49	
		\$295,557 26

Publicity for Safety Work

Labels, tags, postage and printing	\$962 27
	<hr/>
	\$1,461,200 75

Summary

Payrolls	\$968,909 94
Expenses	491,328 54
Publicity for Safety Work	962 27
	<hr/>
	\$1,461,200 75

RELATING TO WATERWAYS AND PUBLIC LANDS BOSTON HARBOR

The Commonwealth Flats at South Boston

Commonwealth Pier 5

The work necessary to maintain the effective operation of the pier has been continued during the year. Repairs have been made to gangways and floating fenders, to elevators and elevator machinery and to the heating plant.

Under contract of Oct. 30, 1934, with W. H. Ellis and Son Company repairs to pile and timber work were completed Feb. 8, 1935, at a contract cost of \$2,680.40.

Repairs to roof coverings at the pier, under contract of Nov. 7, 1934, with the Atlantic Roofing and Skylight Works, were completed May 21, 1935, at a contract cost of \$310.97.

The painting of doors and sash in the Headhouse, under contract of Nov. 13, 1934, with John S. Leonard, was completed Dec. 21, 1934, at a contract cost of \$285.

Under contract of Nov. 13, 1934, with Maurice M. Devine for replacing existing steel sash and broken glass in the lightwells, work was completed Apr. 17, 1935, at a contract cost of \$7,150.

Repairs to the linings of the boilers at the heating plant, under letter contract of July 25, 1935, with Plibrico Jointless Firebrick Company, were completed July 31, 1935, at a contract cost of \$569.22.

The Department of Public Safety requested in September authorization for the use of space for offices on the second floor of the pier. Under an agreement executed in November the use of about 28,700 square feet of space was granted at a rental of \$28,000 per year. To provide adequate quarters for office use it has been necessary to install additional plumbing and to build partitions.

A contract was made on Nov. 5, 1935, with Morris Slotnick for the construction of wood frame and glass office partitions. This work was completed Nov. 23, 1935, at a contract cost of \$5,715.15.

Under letter contract of Nov. 19, 1935, with John A. Gerrity additional plumbing is now being installed.

The serious damage by marine borers to the foundation piles of the pier was shown by examinations made by divers in 1934 and 1935. To ensure the safety of the structure it has become necessary to reconstruct the platform foundations and decks.

In October the Department secured the services of Fay, Spofford and Thorn-dike, consulting engineers, upon a project for such reconstruction. After the necessary preliminary examinations and borings were made, plans for the work needed were submitted to the Federal Emergency Administration of Public Works with a request for a grant to aid in financing the reconstruction estimated to cost approximately \$819,000. This work has been approved as Public Works Administration Project No. Mass. 1301.

Plans and specifications for the removal of the existing pile and concrete platforms at the pier and the building of a new concrete platform consisting of a concrete deck slab supported by steel girders and beams on caisson and pile foundations, have been approved by the Federal authorities, and proposals for the work have been invited by public advertisement by the Department.

A summary of freight and passengers using the pier in 1935 follows:

NUMBER OF TONS FREIGHT AND PASSENGERS HANDLED AT COMMONWEALTH
PIER No. 5, DURING YEAR ENDING NOVEMBER 30, 1935

SS. Line	Num-ber of Ships	In Freight (Tons)			Out Freight (Tons)			Passengers		Total
		R.R.	Truck	Total	R.R.	Truck	Total	In	Out	
Amer.-Haw. S.S. Co. . .	100	30,102	97,335	127,437	9,747	34,443	44,190	—	—	—
Luckenbach S.S. Co. . .	62	6,038	77,157	83,195	5,954	23,661	29,615	—	—	—
Norton, Lilly & Co. . .	22	4,071	7,834	11,905	—	—	—	—	—	—
Cunard White Star . . .	6	142	905	1,047	142	285	427	205	240	445
Can. Nat. SS. Co. . . .	82	170	894	1,064	—	71	71	3,250	3,263	6,513
Italian Line	11	—	99	99	104	134	238	—	1,604	1,604
Byron SS. Co.	6	—	—	—	—	—	—	—	584	584
French Line	1	—	—	—	—	—	—	—	126	126
Holland Amer. Line . .	1	—	—	—	—	—	—	—	159	159
Peabody & Lane	1	—	—	—	80	—	80	—	—	—
John G. Hall & Co. . . .	1	—	—	—	26	—	26	—	—	—
Summaries	293	40,523	184,224	224,747	16,053	58,594	74,647	3,455	5,976	9,431

DEVELOPMENT OF LAND SOUTH OF SUMMER STREET

The seven sections of Storehouse No. 1 on E Street have been occupied during the year by the Wiggin Terminals, Inc.

The work of repairing the roof of the building and of installing skylights under contract of Nov. 7, 1934, with the Atlantic Roofing and Skylight Works was completed May 21, 1935, at a contract cost of \$13,849.09.

THE COMMONWEALTH FLATS AT EAST BOSTON
Aircraft Landing Field — Boston Airport

The greater part of the area reclaimed by the Commonwealth at East Boston continues to be occupied by the city of Boston as an airport. On Aug. 10, 1928, under authority of Chapter 64 of the Resolves of that year, the Department leased to the city approximately 5,717,000 square feet of land for this purpose. The use of an additional area of 4,210,760 square feet was authorized by a lease executed

July 14, 1930, in accordance with the provisions of Chapter 53 of the Resolves of 1930. The matter of the lease to the city of two additional parcels, one north-easterly of the areas leased in 1928 and 1930, the other southeasterly of the parcel leased in 1930, is still pending.

The use of these areas by the city is subject to certain rights of occupancy and use granted by lease of June 30, 1922, to the War Department, with an option of annual renewals to June 30, 1937, by a supplementary agreement of Dec. 27, 1926.

RECLAMATION OF FLATS

The work of dredging and filling at East Boston under contracts made by the Department for the purpose of reclaiming flats has been in abeyance since 1923. Between that year and Nov. 30, 1935, approximately 2,972,000 cubic yards of material dredged from various locations in the harbor have been deposited in the receiving basin. In the year ending Nov. 30, 1935, about 104,500 cubic yards were dumped upon flats northerly of Governors Island. The Commonwealth has reclaimed approximately 150 acres of land at East Boston.

Under licenses granted for building bulkheads, dredging and filling, the city has reclaimed for the extension of the airport about 140 acres.

COMMONWEALTH PIER 1, EAST BOSTON

This pier has been used and occupied during the year by John G. Hall and Company, Inc., under the terms of the lease of Nov. 20, 1934.

Work under contract of Oct. 30, 1934, with W. H. Ellis and Son Company for repairs to pile and timber work at this pier was completed Feb. 12, 1935, at a contract cost of \$2,488.78.

The erection of sliding doors and the replacing of door sills with new timber, under contract of Nov. 13, 1934, with Ray Wason, was completed May 7, 1935, at a contract cost of \$2,575.02.

The building of a movable gangway on the east side of the pier, under contract of Nov. 20, 1934, with Wagborne-Brown Company, was completed Feb. 12, 1935, at a contract cost of \$1,844.

Amount expended during the year, \$9,669.37.

Income received from the pier during the year, \$8,141.90.

BOSTON HARBOR — REMOVAL OF ABANDONED HULKS OF WRECKS

On Aug. 13, 1934, a contract was made with the M and R Construction Company to remove the wreck of the tow boat "Esther Rendle" from tide water at property of the National Dock and Storage Warehouse Company and to dispose of the material above the high water line, at a contract price of the lump sum of \$723. This work was completed Sept. 28, 1935, at a contract cost of \$723.

CASTLE ISLAND BULKHEAD

Work under contract of Nov. 27, 1934, with John P. Cavanagh for removing about 980 linear feet of the southeasterly end of the bulkhead extending from the Reserved Channel toward Castle Island and for repairing designated portions of the remaining bulkhead and the bulkhead on the south side of the Reserved Channel, was completed Oct. 29, 1935, at a contract cost of \$3,335.

HOUGH'S NECK, QUINCY

The work by the city of Quincy in building at Hough's Neck a granite sea wall about 840 feet long with riprap protection along the base, and in constructing two stone jetties, has been in progress during the year under the agreement with the Department authorized by Chapter 322 of the Acts of 1934. About ninety-two per cent of the project has already been completed.

MYSTIC RIVER DREDGING

The work of dredging a channel in Mystic River to a depth of 20 feet at mean low water from a point about 1,000 feet below Malden Bridge to a point about 900 feet above, under contract of Sept. 11, 1934, with the J. S. Packard Dredging Company, was completed Dec. 28, 1934, at a contract cost of \$19,802.44.

On July 2, 1935, a contract was made with the J. S. Packard Dredging Com-

pany to dredge two areas in Mystic River in Boston and Everett, one above and the other below Malden Bridge, to a depth of 20 feet at mean low water, at the following contract prices: for dredging and disposing of the dredged material 54.5 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed Aug. 12, 1935, at a contract cost of \$40,355.60.

TOWN RIVER, QUINCY

A contract was made on Sept. 4, 1935, with the J. S. Packard Dredging Company for dredging a channel in Town River about 80 feet wide, 5,200 feet long, and 10 feet deep at mean low water at the following contract prices: for dredging and disposing of the dredged material 54 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed Nov. 15, 1935, at a contract cost of \$55,104.40.

PLEASANT PARK CHANNEL, WINTHROP

A contract was made on Aug. 27, 1935, with the Bay State Dredging and Contracting Company to dredge certain specified shoal areas in Belle Isle Inlet and Pleasant Park Channel to a depth of 6 feet at mean low water, at the following contract prices: for dredging and disposing of dredged material 56.8 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed Sept. 27, 1935, at a contract cost of \$16,936.62.

WINTHROP HARBOR CHANNEL

A letter contract under date of Sept. 21, 1935, was made with the Bay State Dredging and Contracting Company to dredge to a depth of 9 feet at mean low water, six shoal areas in the channel leading to the Winthrop Yacht Club and the wharf of the Federal Government, at a contract price of the lump sum of \$2,100. The dredging was completed Sept. 26, 1935, at a contract cost of \$2,100.

MARINE BORERS

The investigation of the action of marine borers has been continued during the year by the New England Committee on Marine Piling Investigation, a body organized in 1934 for the purpose, and consisting of representatives of the New England railroads, the Commonwealth of Massachusetts through its Department of Public Works, and the State of New Hampshire through its Highway Department. This committee secured the services of Dr. William F. Clapp, Biologist, to direct these investigations.

Frank C. Shepherd, Consulting Engineer of the Boston and Maine Railroad, served as Chairman of this Committee until his death in August, 1935, when he was succeeded by A. H. Morrill, Assistant Chief Engineer of the Boston and Maine Railroad, the Maine Central Railroad and the Portland Terminal Company.

To determine the activity of the borers test boards have been maintained during the year at locations along the coast from New York to Eastport, Maine. To help this investigation the Department has continued to maintain four test boards in Boston Harbor in the locations established last year.

On Feb. 6 and Aug. 22, 1935, letter contracts were made with C. Ray Norris, diver, for making an examination of the foundation piles at Commonwealth Pier 5, at a price of \$29 per day, the contractor furnishing all labor, tools, appliances and equipment, except the diving scow and the laborers to operate the air pumps provided by the Commonwealth.

Under these contracts 5,121 piles were examined at a contract cost of \$1,305.

SURVEYS

During the year surveys have been made in connection with maintenance and operation of Commonwealth property, and of the wharf lines in Town River, Chelsea Creek and Belle Isle Inlet.

Hydrographic surveys have been carried on in the Charles River between the Railroad Bridge and the Charles River Dam, in Mystic River from Chelsea Bridge North to Wellington Bridge, in Pleasant Park Channel and Winthrop Harbor Channel, along a portion of the Atlantic Avenue waterfront and in Town River, Quincy.

RIVERS, HARBORS, TIDE WATERS AND FORESHORES OUTSIDE OF BOSTON HARBOR

For the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, in accordance with the provisions of section 11, Chapter 91, General Laws, an appropriation to \$100,000 was made during 1935, with the following condition:

"provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered."

An appropriation of \$22,500 was also available during the year for the maintenance of structures, and for repairing damages along the coast line or river banks of the Commonwealth, and for the removal of wrecks and other obstructions from the tide waters and great ponds.

In addition to these annual appropriations Chapter 464 of the Acts of 1935, approved Aug. 5, 1935, provided not less than \$250,000 to be expended at the discretion of the Commissioner for the improvement development and protection of rivers, harbors, tide waters and foreshores outside of Boston Harbor.

Petitions were filed with the Department during the year for surveys and improvements in the following localities: Allens Harbor, Harwich; Barlow River, Bourne; Connecticut River, Deerfield; Falmouth Inner Harbor, Falmouth; Great Pond, Falmouth; Herring River, Harwich; Katama Bay, Edgartown; Lake Anthony, Oak Bluffs; Lake Tashmoo, Tisbury; Little Bay, Fairhaven; Menamsha Creek, Chilmark and Gay Head; Nobscusset Breakwater, Dennis; Old Silver Beach, Falmouth; Pamet River, Truro; Parker River Shore, Yarmouth; Pleasant Bay, Chatham; Plum Island Basin, Newbury and Newburyport; Plymouth Harbor, Plymouth; Point Shirley sea wall, Winthrop; Point Connett-Angelica Point, dredging and breakwater, Mattapoisett; Rock Harbor, Orleans; Saugus River, Lynn; South Hyannis sea wall, Barnstable; West Falmouth Harbor, Falmouth; West Harwich Shore, Harwich.

Public hearings have been held and estimates of cost made, but no work has been undertaken to carry out improvements petitioned for in Barlow River, Bourne; Katama Bay, Edgartown; Lake Anthony, Oak Bluffs; Lake Tashmoo, Tisbury; Little Bay, Fairhaven; Pamet River, Truro; Pleasant Bay, Chatham; Plum Island Basin, Newbury and Newburyport; Point Shirley sea wall, Winthrop; Point Connett-Angelica Point, dredging and breakwater, Mattapoisett; Saugus River, Lynn.

Information relating to work previously done in various rivers and harbors of the Commonwealth may be found in the annual reports of the Board of Harbor and Land Commissioners, the Commission on Waterways and Public Lands, the Division of Waterways and Public Lands of the Department of Public Works, and in the tables of the Appendix accompanying the present report. These tables show localities, character of work, appropriations and expenditures by the Commonwealth and certain appropriations and expenditures by the Federal Government.

An account of work done during the year 1935, for the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor follows:

ALLENS HARBOR, HARWICH

Hearing was held on Jan. 31, 1935, on petitions of the Selectmen of Harwich and others, for dredging the entrance channel to Allens Harbor.

On June 18, 1935, a contract was made with Herbert T. Gerrish to include the dredging in the entrance to Allens Harbor of a channel about 40 feet wide on the bottom and 6 feet deep at mean low water, at the following contract prices: for dredging and disposing of the dredged material on land, flats, or at sea, 43 cents for each cubic yard measured in place; for removing and disposing of boulders \$20 for each cubic yard. Toward the cost of this dredging a contribution of \$1,000

has been made by the town of Harwich. No work has yet been done under this contract.

Amount expended during the year, \$15.75. Total expenditure to Dec. 1, 1935, \$51,378.37.

BARNSTABLE SHORE PROTECTION.

South Hyannis

Hearing was held June 12, 1935, upon petition of the Selectmen of Barnstable and others for a sea wall at Villa Sites, South Hyannis.

On Sept. 3, 1935, a contract was made with Harry L. Jones to build about 1,295 linear feet of concrete sea wall and three stone jetties, each 200 feet long, at the following contract prices: for furnishing material and constructing the concrete sea wall, including all excavation, back filling, removing old walls, crib work, steps, drains and cesspools and all incidental work, \$9.90 for each cubic yard of concrete measured in the completed work; for furnishing and placing stone riprap and granite chips in the jetties, \$3.00 for each ton of 2,000 pounds. No work has yet been done under this contract.

Toward the cost of this shore protection individuals and organizations interested have made contributions amounting to \$3,993.67 and an equal amount has been contributed by the county of Barnstable.

West Beach

Hearing was held Jan. 24, 1935, upon petition of the Selectmen of Barnstable for the building of stone jetties at West Beach at Squaw Island Road to protect the beach and road from erosion.

On Sept. 4, 1935, a contract was made with Frederick V. Lawrence to build four stone jetties at Squaw Island Road, Hyannisport, at a contract price for furnishing and placing granite stone riprap and chips in the jetties, of \$2.84 for each ton of 2,000 pounds. This work is now nearly completed. Toward the cost of this protection of the shore a contribution of \$1,350 has been made by the town of Barnstable and one of an equal amount by the county of Barnstable. Work under this contract is now in progress.

BASS RIVER, BEVERLY

A contract was made on Jan. 8, 1935, with the Bay State Dredging and Contracting Company to dredge a channel 90 feet wide on the bottom and 6 feet deep at mean low water in Bass River, northerly of Bridge Street, at the following contract prices: for dredging and disposing of dredged material 50 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed March 11, 1935, at a contract cost of \$3,499. Toward this cost a contribution of \$2,000 was made by the city of Beverly.

Amount expended during the year, \$3,850.75. Total expenditure to Dec. 1, 1935, \$84,953.51.

BASS RIVER, DENNIS AND YARMOUTH

During the year complaint was made to the Department concerning the condition of the west jetty at the entrance to Bass River. An inspection showed the top of the jetty badly eroded in certain sections and repairs needed.

Because of the difficulty of transporting materials to the site, it was decided to carry out the work on a basis of day labor. By this means a section of wall about 200 feet long has been rebuilt with concrete and a concrete footing placed under other sections for a length of 180 feet, at a cost of \$3,798.89.

Amount expended during the year, \$3,798.89. Total expenditure to Dec. 1, 1935, \$192,092.22.

CAPE COD CANAL LANDING PIER AT BOURNE

The present pier, authorized by Chapter 441 of the Acts of 1931, was completed during 1934. It is of solid fill construction about 100 feet long, providing a depth of 25 feet in the dock at mean low water and a light timber extension about 400 feet long available as a tie-up for vessels along the easterly side of the turning basin. Upon the pier a superstructure 36 feet wide and 200 feet long has been built of brick, steel and timber.

No work except minor repairs has been necessary during the year.

Amount expended during the year for operation, maintenance and improvement, \$4,343.90.

Income during the year, \$4,203.47.

Total expenditure to Dec. 1, 1935, for construction \$264,267.22; for operation and maintenance, \$11,025.18.

CONNECTICUT RIVER

The Department during the year made application to the Work Progress Administration of the Federal Government for approval of projects for the placing of riprap and the building of dikes at several points along Connecticut River to prevent erosion and damage by floods. These projects received tentative approval in the fall of 1935, but no work was done during the fiscal year.

DUXBURY HARBOR, DUXBURY

Hearings were held on Jan. 24 and 31, 1935, upon petitions of the Selectmen of Duxbury and others, for dredging the anchorage basin in Duxbury Harbor.

A contract was made on Apr. 30, 1935, with the Bay State Dredging and Contracting Company for dredging about 25,000 cubic yards of material over an area in Duxbury Bay to a depth of 6 feet at mean low water for a part of the area, and to a depth of 8 feet at mean low water over the remaining portion. The contract prices for this work were: for dredging and disposing of the dredged material 59.6 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This dredging was completed June 6, 1935, at a contract cost of \$15,268.33. Toward this cost a contribution of \$8,000 was made by the town of Duxbury.

Amount expended during the year, \$16,255.30. Total expenditure to Dec. 1, 1935, \$109,104.31.

ELLISVILLE HARBOR, PLYMOUTH

Under a letter contract of June 11, 1935, with Arthur K. Finney a caterpillar crane was furnished, with an operator, for excavating the entrance to Ellisville Harbor. The work was completed July 10, 1935, at a contract cost of \$398. Under this agreement the entrance channel was excavated to mean low water with a bottom width of about 25 feet.

Amount expended during the year, \$435.06. Total expenditure to Dec. 1, 1935, \$21,108.64.

FALMOUTH INNER HARBOR, FALMOUTH

Hearing was held on Jan. 24, 1935, on a petition of the Selectmen of Falmouth, and others, for the deepening of Falmouth Inner Harbor to not less than 10 feet at mean low water.

On May 21, 1935, a contract was made with Herbert T. Gerrish to include the dredging of an anchorage basin to a depth of 10 feet at mean low water in this harbor, at the following contract prices: for dredging and disposing of the excavated material on marsh or flats by the hydraulic process, including the construction of necessary dikes and sluices or other barriers, 56 cents for each cubic yard measured in place; for removing and disposing of boulders, \$20 for each cubic yard. No work has begun as yet under this contract. A contribution of \$5,000 toward the cost of the dredging has been made by the town of Falmouth.

A contract with William R. Farrell and Son, Inc., was made on Aug. 14, 1935, to include repairs to the west jetty at Falmouth Inner Harbor at the following contract prices: for each ton of heavy stone riprap furnished in place in the completed work \$3.37; for each ton of fine stone chips furnished in place in the completed work \$4.27; for each cubic yard of material excavated and back filled in the completed work \$1.00. These repairs were completed Oct. 22, 1935, at a contract cost of \$3,988.85.

Total expenditure to Dec. 1, 1935, \$154,279.63.

GREAT POND, FALMOUTH

Hearing was held on Jan. 24, 1935, on the petition of the Selectmen of Falmouth, and others, for dredging the entrance channel to Great Pond and building a jetty at its outlet into Nantucket Sound.

A contract was made on May 21, 1935, with Frederick V. Lawrence to excavate a channel about 1,400 feet long and 30 feet wide on the bottom, to a depth of 3 feet at mean low water, and to build a stone jetty about 340 feet long at the entrance of Great Pond to Nantucket Sound. The contract prices for this work were: for excavating and disposing of the dredged material 39 cents for each cubic yard; for removing and disposing of all boulders in excess of one cubic yard in volume, \$1.00 for each cubic yard; for furnishing and placing granite stone riprap and granite chips in the jetty, \$2.83 for each ton.

This work was completed Sept. 20, 1935, at a contract cost of \$9,116.71. Toward this cost a contribution of \$5,000 was made by the town of Falmouth.

Amount expended during the year, \$10,508.89. Total expenditure to Dec. 1, 1935, \$10,508.89.

HARWICH SHORE PROTECTION

Hearing was held on Jan. 31, 1935, on petition of the Selectmen for the building of stone jetties at West Harwich Beach.

A contract with Frederick V. Lawrence was made on Aug. 12, 1935, to build two stone jetties at Harwichport and to rebuild and extend a stone jetty at South Harwich, at a contract price of \$2.68 for each ton of 2,000 pounds of granite stone riprap and chips furnished and placed in the jetties. This work was completed Nov. 23, 1935, at a contract cost of \$3,728.88. Toward this cost a contribution of \$1,000 was made by the town of Harwich and one of equal amount by the county of Barnstable.

Amount expended during the year, \$3,388.37. Total expenditure to Dec. 1, 1935, \$15,947.79.

HERRING RIVER, HARWICH

Hearing was held on Jan. 31, 1935, on the petition of the Selectmen of Harwich for dredging at the mouth of Herring River.

On June 18, 1935, a contract was made with Herbert T. Gerrish to include the dredging in the entrance to Herring River of a channel about 60 feet wide on the bottom and 6 feet deep at mean low water, at the following contract prices: for dredging and disposing of the dredged material on land, flats or at sea, 43 cents for each cubic yard measured in place; for removing and disposing of boulders \$20 for each cubic yard. Toward the cost of this dredging a contribution of \$1,000 has been made by the town of Harwich. No work has begun under this contract.

During the year a concrete wall 402 feet long was built upon the top of the stone work of the westerly jetty at the entrance to the river. The work was carried out on a basis of day labor at a cost of \$1,936.24.

Amount expended during the year \$1,936.24. Total expenditure to Dec. 1, 1935, \$136,669.22.

HYANNISPORT BREAKWATER, BARNSTABLE

Hearing was held on Jan. 24, 1935, on the petition of the Selectmen of Barnstable for the building of a stone breakwater to close the existing gap between the end of the breakwater built by the Federal Government and the end of the jetty built by the Commonwealth at Hyannisport.

On June 11, 1935, a contract was made with the Bay State Dredging and Contracting Company to close the gap between the two structures by extending the stone breakwater built by the Commonwealth to the breakwater built by the Federal Government. The contract price for this work was: for each ton of stone riprap furnished in place in the completed work \$2.94. This project was completed Sept. 6, 1935, at a contract cost of \$35,280. Toward this cost a contribution of \$14,400 was made by the town and one amounting to \$3,600 by individuals interested in the improvement.

Under a letter contract of Sept. 17, 1935, with the Bay State Dredging and Contracting Company, additional stone was placed in the old breakwater and in the extension at a contract cost of \$5,033.28.

Amount expended during the year, \$36,447.57. Total expenditure to Dec. 1, 1935, \$101,465.33.

MANCHESTER HARBOR, MANCHESTER

A contract was made on Oct. 4, 1935, with the Bay State Dredging and Contracting Company to dredge to a depth of 6 feet at mean low water, an anchorage basin in Manchester Harbor at the following contract prices: for dredging and disposing of the dredged material 49.8 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work, not yet completed, is to be paid for from funds available under the provisions of Chapter 464 of the Acts of 1935.

Amount expended during the year, \$17,742.87. Total expenditure to Dec. 1, 1935, \$207,581.75.

MANOMET POINT, PLYMOUTH

Work under contract of Aug. 21, 1934, with M. J. Crowley, for shore protection at Manomet was completed Mar. 9, 1935, at a contract cost of \$12,468.49. Toward this cost a contribution of \$5,500 was made by the town of Plymouth and one of \$1,750 by the County of Plymouth.

Amount expended during the year, \$7,277.74. Total expenditure to Dec. 1, 1935, \$13,920.20.

MENAMSHA CREEK, CHILMARK AND GAY HEAD

Hearing was held on Jan. 24, 1935, on the petition of the Selectmen of Chilmark and Gay Head for the deepening of Menamsha Creek from its entrance in Vineyard Sound to Menamsha Pond and for the placing of riprap.

On Oct. 4, 1935, a contract was made with the Bay State Dredging and Contracting Company to dredge to a depth of 6 feet at mean low water a channel about 5,200 feet long from Vineyard Sound to Menamsha Pond to a width of 60 feet on the bottom, at the following contract prices: for dredging and disposing of excavated material on marsh or flats by the hydraulic process, including the construction of necessary dikes and sluices or other barriers, 54 cents per cubic yard measured in place; for removing and disposing of boulders \$20 per cubic yard. The cost of this work, now nearly completed, is to be paid from funds available under the provisions of Chapter 464 of the Acts of 1935.

Work under this contract has been extended to include the dredging of a channel from Menamsha Pond to Nashaquitsa Pond, to a depth of 6 feet at mean low water and a width on the bottom varying from 60 feet to 100 feet.

Amount expended during the year, \$23,751.28. Total expenditure to Dec. 1, 1935, \$153,994.71.

NEW BEDFORD STATE PIER

During the year a portion of this pier has been occupied by the Lamport Manufacturing Supply Company, Inc., under the terms of the lease of Apr. 27, 1933, expiring Mar. 31, 1936, at a rental of \$5,500 per year.

On Sept. 9, 1935, a letter contract was made with Thomas O'Connor and Company, Inc., for alterations and repairs to the present platforms and the construction of a wooden canopy. This work was completed Nov. 20, 1935, at a contract cost of \$9,414.08.

Under a letter contract of Nov. 6, 1935, with Frank C. Taylor, Inc., the work of furnishing and driving creosoted yellow pine piles and furnishing and placing creosoted yellow pine cap log and untreated oak facing at the pier, is now in progress.

Repairs to the foundations of the timber sheds on the pier, in accordance with letter contract of Nov. 26, 1935, with Thomas O'Connor and Company, Inc., were completed Nov. 29, 1935, at a contract cost of \$1,046.98.

Three steamship lines are now operating weekly sailings on regular schedules from this pier. The commodities chiefly handled are cotton, flour and rice from the Gulf ports.

The Southern Pacific Steamship Lines, the Morgan Line, the Pan-Atlantic Line and the Mooremack Gulf Lines, Inc., use the pier in regular service, while occasional shipments of lumber from the Pacific coast ports are brought in by other lines.

Amount expended for operation, maintenance and improvement during the year, \$13,370.01.

Income during the year, \$23,921.89.

Total expenditure for operation, maintenance and improvement, to Dec. 1, 1935, \$93,913.02.

NOBSCUSSET HARBOR, DENNIS

On Jan. 15, 1935, a contract was made with Thomas Whalen and Sons, Inc., for placing heavy stone riprap along the northeasterly side of the timber bulkhead at Nobscusset Harbor, at a contract price of \$2.23 for each ton of stone riprap in place in the completed work. The improvement was completed May 23, 1935, at a contract cost of \$4,171.89. Toward this cost a contribution of \$1,200 each was made by the town of Dennis and the County of Barnstable.

Amount expended during the year, \$4,785.50. Total expenditure to Dec. 1, 1935, \$48,564.29.

OLD SILVER BEACH, FALMOUTH

Hearing was held on Jan. 24, 1935, on the petition of the Park Commissioners of Falmouth for the building of a retaining wall at Old Silver Beach to keep Herring River from changing its course and to protect the beach where the town has built a bathing pavilion.

On May 21, 1935, a contract was made with Frederick V. Lawrence for the construction of a stone jetty about 350 feet long, a return wall about 90 feet long, for excavating a trench and riprapping the slope along the southerly side of the jetty about 350 feet in length, on the northerly side of the entrance to Herring River at Old Silver Beach. The contract price for the work was: for furnishing and placing stone riprap and granite chips in the jetty and return wall and excavating, including all incidental work, \$2.39 for each ton of 2,000 pounds. This project was completed July 23, 1935, at a contract cost of \$2,418.88. Toward the cost a contribution of \$1,000 each was made by the town of Falmouth and the county of Barnstable.

Amount expended during the year, \$3,069.30. Total expenditure to Dec. 1, 1935, \$3,069.30.

ONSET BAY, WAREHAM

Hearing was held on Jan. 24, 1935, on the petition of the Chairman of the Selectmen of Wareham for dredging a channel and basin in Onset Bay in extension of dredging to be carried out by the Federal Government.

A contract was made with Herbert T. Gerrish on Oct. 4, 1935, for dredging to a depth of 15 feet at mean low water a channel and basin in Onset Bay, the channel to a width of 100 feet on the bottom except at the turn where a width of 125 feet is to be provided, at the following contract prices: for removing and disposing of boulders \$20 per cubic yard; for dredging and disposing of the excavated material on marsh or flats by the hydraulic process, including the construction of necessary dikes and sluices or other barrier, for each cubic yard measured in place, 51.5 cents. No work has yet begun under this contract. The cost of this dredging is to be paid from funds available under the provisions of Chapter 464 of the Acts of 1935.

Amount expended during the year, \$313.35. Total expenditure to Dec. 1, 1935, \$15,866.55.

COMMONWEALTH PROPERTY AT PLYMOUTH

An appropriation of \$3,000 was made this year by the Legislature for expenses of property at Plymouth acquired by the Pilgrim Tercentenary Commission and placed under the jurisdiction of the Department by vote of the Governor and Council on July 17, 1924. The usual care of the grounds and pier and necessary minor repairs have been carried on during the year.

The budget for 1935 provided also the sum of \$45,000 for the reconstruction of the State Pier.

On May 27, 1935, a letter contract was made with the Bay State Dredging and Contracting Company to dredge about 5,000 cubic yards of material from areas

near the pier, under the terms and conditions of its contract of Apr. 30, 1935, for dredging Duxbury Harbor. This work was completed June 4, 1935, at a contract cost of \$3,513.08.

A contract was made on July 16, 1935, with the Lee Construction Company, Inc., for removing the existing pile wharf at the State Pier, for constructing upon the site of new wharf and bulkhead of creosoted piles and timber, and for dredging an area adjacent to the bulkhead. The contract prices were: for dredging 60 cents per cubic yard, measured in place; for removal and disposal of boulders \$5.00 per cubic yard; for building wharf and bulkhead, unit prices for material furnished and placed. This work is now in progress.

Amount expended during the year, \$35,147.04. Total expenditure to Dec. 1, 1935, \$86,719.26.

PLYMOUTH HARBOR, PLYMOUTH

Hearing was held Jan. 24, 1935, on petition of Morton Collingwood, and others, for enlarging and deepening the present anchorage basin in Plymouth Harbor.

On Oct. 4, 1935, a contract was made with the Bay State Dredging and Contracting Company for dredging two areas in the basin near the Plymouth Yacht Club, one to a depth of 8 feet and the other to a depth of 6 feet at mean low water, at the following contract prices: for dredging and disposing of the dredged material 54.5 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work, now nearly completed, is to be paid for from funds available under the provisions of Chapter 464 of the Acts of 1935.

Amount expended during the year, \$28,195.72. Total expenditure to Dec. 1, 1935, \$352,760.74.

PROVINCETOWN TERCENTENARY COMMISSION

During the year the land at Provincetown acquired by the Provincetown Tercentenary Commission and placed under the control of the Department June 23, 1926, has been cared for from funds appropriated for this area and the Province Lands. An employee has been kept at work during the summer to maintain the park in proper condition.

ROCK HARBOR, ORLEANS

Hearing was held Jan. 31, 1935, on petition of the Selectmen of Orleans, and others, for dredging the channel to facilitate access to the platform built by the Department in 1934 in Rock Harbor Creek.

On May 21, 1935, a contract was made with Herbert T. Gerrish for dredging by the hydraulic process about 17,000 cubic yards of material in the channel and basin in Rock Harbor, the channel to a width of 40 feet on the bottom and the basin to width of 90 feet on the bottom, to a depth of 2 feet below mean low water. The contract prices for this work were: for dredging channel and basin and disposing of excavated material on marsh or flats adjacent to the work, including the construction of necessary dikes, sluices or other barriers, 46 cents for each cubic yard measured in place; for removing and disposing of boulders \$10 per cubic yard. This work was completed Sept. 28, 1935, at a contract cost of \$7,360. Toward this cost a contribution of \$4,000 was made by the town of Orleans.

Amount expended during the year, \$8,962.53. Total expenditure to Dec. 1, 1935, \$37,753.77.

SALISBURY DIKE

By Chapter 399 of the Acts of 1935, the Department of Public Works is authorized and directed to construct a dike and incidental structures in tide water within the territory of the Salisbury Reclamation District, in connection with the control works in process of construction by the District. For building the dike and incidental structures an expenditure of not more than \$13,000 is authorized, but no work is to be begun until the District has acquired the land upon which the structures are to be built, has provided near the site of the work materials to be used as fill and marsh sod to be used as surface protection for the dike and structures, and has assumed liability for all damages. The act is to take effect

upon its acceptance, before Sept. 1, 1935, by the proprietors of the Salisbury Reclamation District.

On Aug. 31, 1935, said District voted to accept the provisions of the Act and executed a contract of indemnity, assuming the liability required by the statute.

As the necessary taking of land has not been made by the District, no work has yet been done.

SCITUATE HARBOR

On Oct. 4, 1935, a contract was made with the Bay State Dredging and Contracting Company to dredge an area in Scituate Harbor to a depth of 6 feet at mean low water, at the following contract prices: for dredging and disposing of the dredged material 56.3 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work, now nearing completion, is to be paid for from funds available under the provisions of Chapter 464 of the Acts of 1935.

Amount expended during the year, \$11,491.67. Total expenditure to Dec. 1, 1935, \$217,503.61.

SCITUATE SEA WALLS

Shore Acres

The work under letter contract of May 8, 1934, with Thomas H. Hannaford for building the additional section of sea wall to complete the structure in front of Oceanside Drive from a point northerly of Fourth Avenue to Eleventh Avenue, was completed Aug. 3, 1935, at a contract cost of \$3,000. Toward the cost of the extension a contribution of \$1,500 was made by the town of Scituate.

SENCEKONTACKET POND, OAK BLUFFS

A letter contract with S. M. Fisher was made on Nov. 27, 1934, to remove 48 piles obstructing navigation in the entrance channel. The work was completed Jan. 12, 1935, at a contract cost of \$225.

SINGING BEACH, MANCHESTER

The work of grading about 4,000 square yards of the slope at Singing Beach, and of placing coarse gravel or crushed stone and stone riprap paving, under contract of Aug. 28, 1934, with Thomas A. Mackey, was completed Mar. 23, 1935, at a contract cost of \$7,392.68. Toward this cost a contribution of \$7,562.50 was made by the town of Manchester.

The unexpectedly low prices at which the contract for this work was made resulted in an unexpended balance from the sum allotted for the purpose. The town of Manchester asked that this balance be spent for extending the work at Singing Beach.

On Feb. 5, 1935, a contract was made with Thomas Whalen and Sons, Inc., for paving with stone riprap about 400 feet of bank at this beach, involving the grading of about 900 square yards of bank, the furnishing and placing of 150 cubic yards of screened gravel or crushed stone, and the furnishing and placing of about 770 tons of stone riprap. The contract prices for this work were: for each ton of riprap furnished and placed in the completed work \$2.50; for each cubic yard of screened gravel or crushed stone furnished and placed in the completed work \$1.65; for each square yard of bank graded, including the furnishing of material and all incidental work, 20 cents. This work was completed June 7, 1935, at a contract cost of \$2,938.32.

Amount expended during the year, \$8,714.32. Total expenditure to Dec. 1, 1935, \$12,732.92.

SMITH'S COVE, GLOUCESTER

Hearing was held Jan. 31, 1935, on the petition of Harold B. Webber for dredging in Smith's Cove.

On Oct. 4, 1935, a contract was made with the J. S. Packard Dredging Company for dredging to a depth of 14 feet at mean low water an area in Smith's Cove, at the following contract prices: for dredging and disposing of the dredged material 54 cents per cubic yard, scow measurement; for removing and disposing of

boulders \$25 per cubic yard. The cost of the work, now nearing completion, is to be paid from funds provided under Chapter 464 of the Acts of 1935.

Amount expended during the year, \$16,318.15. Total expenditure to Dec. 1, 1935, \$29,784.31.

WAQUOIT BAY, FALMOUTH AND MASHPEE

On Aug. 14, 1935, a contract was made with William R. Farrell and Son, Inc., to include repairs to the stone jetty at Waquoit Bay at the following contract prices; for each ton of heavy stone riprap furnished in place in the completed work \$3.37; for each ton of stone chips furnished in place in the completed work \$3.57. These repairs were completed Oct. 22, 1935, at a contract cost of \$6,238.28.

Amount expended during the year, \$9,288.68. Total expenditure to Dec. 1, 1935, \$107,727.59.

WEST CHOP, TISBURY

Work under contract of Aug. 28, 1934, with Merritt-Chapman and Scott Corporation for repairing five stone jetties, extending two stone jetties and building a riprap apron in front of the concrete wall at West Chop, was completed Jan. 12, 1935, at a contract cost of \$7,559.49. Last year a contribution of \$2,500 was made by the town toward the cost of this work and one of \$1,500 by property owners.

Amount expended during the year, \$7,929.46. Total expenditure to Dec. 1, 1935, \$13,045.53.

WEST FALMOUTH HARBOR, FALMOUTH

Hearing was held Jan. 24, 1935, on petition of the Harbor Master of Falmouth, and others, for dredging the entrance channel and increasing the anchorage basin in West Falmouth Harbor.

On May 21, 1935, a contract with Herbert T. Gerrish was made to include the dredging of about 30,000 cubic yards of material from a channel of varying width to a depth of 6 feet at mean low water in West Falmouth Harbor at the following contract prices: for dredging and disposing of the excavated material on marsh or flats by the hydraulic process, including the construction of necessary dikes and sluices or other barriers, 56 cents for each cubic yard measured in place; for removing and disposing of boulders, \$20 for each cubic yard. Work under this contract was begun in October.

Under a letter contract with John A. Davis the work of removing floating timber from this harbor was completed June 19, 1935, at a contract cost of \$75.

Amount expended during the year, \$5,586.10. Total expenditure to Dec. 1, 1935, \$69,107.05.

WINTHROP SHORE PROTECTION

Work under contract of Aug. 1, 1934, with William R. Farrell for an extension to the breakwater off Winthrop Shore Drive was completed Jan. 6, 1935, at a contract cost of \$67,258.43.

This extension was authorized by Chapter 286 of the Acts of 1934 which allowed the expenditure by the Commonwealth of a sum not exceeding \$80,000 to be used with a contribution of \$16,000 to be made by the town. The favorable contract price at which this work was carried out left an unexpended balance for further extension.

On July 9, 1935, a contract was made with William R. Farrell, to build an extension to the northerly end of the existing stone breakwater in Broad Sound off Winthrop Shore Drive, at a contract price of \$2.17 for each ton of stone riprap furnished and placed in the completed work. This project was completed Sept. 3, 1935, at a contract cost of \$23,961.14.

Amount expended during the year, \$43,854.04. Total expenditure to Dec. 1, 1935, \$341,698.89.

YARMOUTH SHORE PROTECTION

Hearing was held Jan. 24, 1935, upon petitions of the Selectmen for the building of stone jetties to protect the Yarmouth Shore.

On Sept. 3, 1935, a contract was made with Frederick V. Lawrence for building

eight stone jetties, each about 150 feet long, at South Yarmouth Beach, at a contract price of \$2.73 for each ton of 2,000 pounds of granite stone riprap and chips furnished and placed in the jetties. This work was completed Nov. 30, 1935, at a contract cost of \$9,977.48. Toward this cost a contribution of \$2,500 each was made by the town of Yarmouth and the county of Barnstable.

Amount expended during the year, \$8,480.86. Total expenditure to Dec. 1, 1935, \$8,480.86.

Miscellaneous

GREAT PONDS

Jurisdiction over great ponds belonging to the Commonwealth was conferred upon the Board of Harbor and Land Commissioners by Chapter 318 of the Acts of 1888. This act applies to ponds containing in their natural state ten or more acres of land. Authority to sell and convey or lease, subject to the approval of the Governor and Council, any of the islands owned by the State in great ponds was later given by Chapter 379, Acts of 1904, now section 2, Chapter 91, General Laws.

During the year the Department has considered matters relating to: Alum Pond, Sturbridge; Asneconick or Comet Pond, Hubbardston; Bartlett Pond, Plymouth; Blackmore's Pond, Wareham; Cedar Dell Pond, South Dartmouth; Clear Lake, Barnstable; Great Pond, Falmouth; Great Pond, Otis; Horn Pond, Woburn; Lake Tashmoo, Tisbury; Lake Winthrop, Holliston; Lead Mine Pond, Sturbridge; Manchaug Lake, Douglas; North Pond, Worcester; Shivericks Pond, Falmouth; Snipatuit Pond, Rochester.

Surveys were made this year of the following great ponds:

Abners Pond, Plymouth

Area at time of survey	10.259 Acres
Area of natural pond	10.259 Acres
Maximum depth	27.6 feet

Stevens Pond, Boxford

Area at time of survey	12.61 Acres
Area of natural pond	12.61 Acres
Maximum depth	15 feet

Pleasant Pond or Idlewild Lake, Hamilton and Wenham

Area at time of survey	30.38 Acres
Natural pond area not determined as no soundings were taken.	
Maximum depth not determined.	

Pond area divided between towns as follows:

1.53 Acres in Hamilton
28.85 Acres in Wenham

ACCESS TO GREAT PONDS

On Dec. 12, 1934, hearing was held by the Joint Board established by Chapter 453 of the Acts of 1923, upon a petition of ten citizens of the Commonwealth asking for the establishment of a right of way for public access to Asneconick or Comet Pond in Hubbardston. As evidence was presented that the pond is a tributary of Ware River, made by the provisions of Chapter 375 of the Acts of 1926 a part of the water supply of the Metropolitan District, and that the Metropolitan District Water Supply Commission is already acquiring land upon the shore of the pond, the petition was dismissed for lack of jurisdiction.

PROVINCE LANDS

The territory belonging to the Commonwealth, known as the Province Lands at Provincetown, comprising about 3,810 acres lying northerly and westerly of a line described in Chapter 470 of the Acts of 1893, was placed by the terms of the statute under the general care and supervision of the Board of Harbor and Land Commissioners. The work of reclamation has been carried on within this area

since 1894 by direction of the Harbor and Land Commissioners and its successors in authority.

Under present conditions the most effective method of checking the movement of the sand appears to be the preliminary covering of the dunes with brush to afford protection for the natural reseedling of beach grass, and the following of this work later by the transplanting of shrubs and trees.

During the year brush and trees have been cleared from an area of about 16 acres previously swept by fire. The brush has been used for covering about 20,000 square feet of sand dunes.

About 600 bayberry shrubs have been transplanted as protection for marginal planting and wind break, and 88,000 small seedling pitch pine trees have been transferred from forest areas to sand dunes.

The work of destroying gypsy moths and brown tail moths has been continued during the year, a new nursery and propagating bed has been established and about two miles of combination fire stops and truck trails provided to ponds and water holes, with sand piles along the way, for use in cases of brush fires.

The reclamation and general care of these lands is carried on under the direction of a superintendent.

The sum of \$201.25 has been paid into the State Treasury during the year from licenses issued for cultivating and picking cranberries on the bogs and for mowing meadows and from permits for occupying areas upon these lands.

Amount expended during the year, \$4,988.63. Total expenditure to Dec. 1, 1935, \$176,276.81.

STATE BOUNDARY LINES

Section 4 of Chapter 1 of the General Laws provides:

"The Department of Public Works, in this chapter called the Department, shall in the year nineteen hundred and thirty-five and in every fifth year thereafter inspect all monuments or other marks defining the location of the boundary lines of the Commonwealth, and if any of them have been injured, displaced, removed or lost the department shall, in co-operation with persons duly authorized by the adjoining State, restore them or replace them with suitable stone monuments, and in the same manner set suitable stone monuments at points not properly marked where the State boundary is intersected by the boundary of any counties, cities or towns in the Commonwealth or by a highway or railroad. If officers of adjoining States are required to make such inspection at other times, the department may co-operate with them."

The perambulation of the boundary line between the Commonwealth of Massachusetts and the State of New York was made by representatives of the Department, beginning July 8 and ending Sept. 7, 1935, as the officials of New York explained that no funds were available for co-operative examination during the year. All bounds were visited and found, with one exception, in good condition. Repairs were made to the bound in question and brush was cut from a considerable section of the boundary line. Additional cutting will be carried out during the coming year.

The perambulation of the boundary line between the Commonwealth of Massachusetts and the State of New Hampshire was made conjointly with W. S. Morrill, representing the State of New Hampshire. This work was done in July, 1935, and all bounds found in good condition and properly set.

The perambulation of the boundary line between the Commonwealth of Massachusetts and the State of Vermont was made conjointly with Lee Bates, representing the State of Vermont. The work was begun Aug. 27, 1935, and completed Aug. 31, 1935. All bounds were visited and found in good condition with two exceptions. Repairs have been made to these two bounds.

The perambulation of the boundary line between the Commonwealth of Massachusetts and the State of Rhode Island and Providence Plantations was made conjointly with members of the Rhode Island Boundary Line Commission appointed by Governor Green on Oct. 28, 1935, as follows: Edward H. Rathburn, Chairman; C. Robert Lynch, and John W. Heuberger. On a portion of the

boundary line the State of Rhode Island was represented by Willis Tobie, designated by the Rhode Island Boundary Line Commission to represent the State of Rhode Island. The work was begun Nov. 4, 1935, and completed Nov. 27, 1935. All bounds were visited and found, with a few exceptions, in good condition. The damaged bounds have been properly reset.

The perambulation of the boundary line between the Commonwealth of Massachusetts and the State of Connecticut was made conjointly with T. F. Newhaus, representing the State of Connecticut. The work was begun Sept. 23, 1935, and completed Oct. 8, 1935. All bounds were visited and found in good condition and properly set.

In these perambulations the Department was represented by the following engineers: William C. Hawley, Charley J. O'Donnell and Francis P. Mahaney.

TOWN BOUNDARY LINES

During the year the Department set certain witness monuments and marked the boundary line between the town of Oak Bluffs and Tisbury, as required by the provisions of Chapter 145 of the Acts of 1935. Other work performed this year comprised the resetting of bound stones which had been damaged or lost.

CONSERVING AND EQUALIZING THE FLOW OF WATER IN RIVERS AND STREAMS

By Chapter 359, Acts of 1909, Chapter 564, Acts of 1912, and Chapter 84, Resolves of 1917, co-operation was established between the Commonwealth and the Water Resources Branch of the United States Geological Survey, so that results of work relating to the gauging of streams within the Commonwealth and other work of a similar character carried on by said survey have been obtained for use by the Department and are available for other Departments of the Commonwealth. Toward the cost of this work the Department has paid during the year, \$5,000.

RE-ESTABLISHMENT OF CERTAIN TRIANGULATION STATIONS

By section 33, Chapter 91, General Laws, the Department is authorized to make such surveys and to do such other work as may be required by any order of the Land Court, to re-establish and permanently mark certain triangulation points and stations previously established in connection with the topographical survey of the Commonwealth, and the town boundary survey, which have been lost or destroyed and to obtain the geographical position of such new points and stations as may be required from time to time by the Court.

All funds provided for this purpose during the year were expended in maintaining a survey party on Nantucket Island to check triangulation work and to run base lines.

LICENSES AND PERMITS

During the year 97 licenses were granted for work to be done in tide waters, great ponds, Connecticut River and Merrimack River, and 112 permits for miscellaneous purposes. The Department also approved 96 permits granted by cities and towns for the construction and maintenance of fish weirs in tide water.

EXPENDITURES FOR DEVELOPMENT AND IMPROVEMENT IN BOSTON HARBOR
1859-1935, INCLUSIVE

<i>Payments</i>	<i>To Nov. 30, 1934</i>	<i>1935</i>	<i>Total</i>
Boston Harbor:	\$1,762,443 60 ¹		
Maintenance of Property		—	
Dredging and Filling		—	
Special Appropriations		\$12,999 86	\$1,775,443 46
Commonwealth Flats:			
East Boston	3,093,326 83 ²	—	3,093,326 83
South Boston	4,892,123 69	—	4,892,123 69
Castle Island:	745,264 94		
Dredging and Filling		4,469 80	749,734 74
Commonwealth Pier No. 5: South Boston:			
Construction	4,014,790 45	—	4,014,790 45
Maintenance	781,951 70	102,014 68	883,966 38
Dredging	61,323 75	—	61,323 75
Operation and Supervision	1,836,848 98	106,000 03	1,942,849 01
Commonwealth Pier No. 1: East Boston:			
Construction	1,199,703 23	—	1,199,703 23
Operation and Supervision	127,987 12	—	127,987 12
Maintenance	27,368 09	9,669 27	37,037 36
Commonwealth Pier No. 6, South Boston:			
Construction	1,092,149 06	—	1,092,149 06
Maintenance	51,937 90	—	51,937 90
Dry Dock	3,169,651 15 ³	—	3,169,651 15
Hayward Creek	385,979 61 ⁴	—	385,979 61
Mystic River	467,425 93 ⁵	46,600 82	541,026 75 ⁷
Malden River	33,002 84 ⁶	—	33,002 84
Chelsea Creek	61,094 35	—	61,094 35
Commercial Point, Dorchester Bay	53,213 10	—	53,213 10
Maintenance of Property (in addition to maintenance items listed above)	395,452 92	57,636 08	453,089 00
	<u>\$24,253,039 24</u>	<u>\$339,390 54</u>	<u>\$24,592,429 78</u>

¹ Expenditure includes contribution by Quincy Market Cold Storage and Warehouse Corporation in 1921 \$ 4,000 00
Bethlehem Shipbuilding Corporation in 1930 10,000 00

² Expenditure includes contribution by the City of Boston in 1926, authorized by Chapter 385, Acts of 1926 10,000 00

³ Additional amount paid by the State Treasurer from Development of the Port of Boston Loan Sinking Fund in settlement of claims 17,877 73

⁴ Expenditure includes contributions by Massachusetts Oil Refining Company and Bethlehem Shipbuilding Corporation 38,600 00
Additional amount paid by State Treasurer for land taking 3,725 27

⁵ Expenditure includes contribution by Merrimac Chemical Company in 1920 15,000 00
Contribution by Beacon Oil Company in 1920 50,000 00
in 1922 4,182 50

⁶ Commonwealth's funds expended by United States Government 31,000 00
Contribution by Standard Oil Company of New York in 1922, expended by the Commonwealth 600 00

⁷ Expenditure includes transfer from Small Harbors and Channels Table 5,927 70

EXPENDITURES AND CONTRIBUTIONS FOR IMPROVEMENT OF SMALL HARBORS AND CHANNELS WITHIN BOSTON HARBOR, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS, FROM 1893 TO 1935, INCLUSIVE

	Contributions		Total Expenditures	
<i>Locality and Character of Work</i>	1935	Contributions	1935	Expenditures
Cottage Park Channel, Winthrop—Dredging . . .	—	\$6,250 00	—	\$37,967 29
Dorchester, Easterly Shore, Dredging and Survey . . .	—	1,000 00	—	210,767 61
Harbor View—Dredging . . .	—	—	—	146 00
Hingham Harbor—Dredging . . .	—	6,500 00	—	41,595 12
Houghs Neck, Quincy—Dredging, Survey and Seawall . . .	—	7,500 00	\$8,480 54	55,165 69
Island End River, Everett—Survey . . .	—	—	—	264 10
Jeffries Point Channel—Dredging . . .	—	—	—	4,563 93
Mystic River (near Lawrence and Wiggin Wharf) Dredging ¹ . . .	—	—	—	—
Neponset River—Dredging . . .	—	10,000 00	—	109,401 63
Old Harbor Cove—Dredging . . .	—	—	—	10,520 48
Orient Heights Channel—Dredging . . .	—	—	—	45,412 38
Pemberton Point, Hull—Breakwater . . .	—	60,000 00	—	91,195 01
Pleasant Park Yacht Club Channel—Dredging . . .	—	3,000 00	18,421 53	48,735 39
Point Allerton, Hull—Seawall . . .	—	50,000 00	—	75,127 05
Point Shirley, Winthrop . . .	—	—	—	3,713 37
Quincy Bay—Dredging . . .	—	10,150 00	—	84,162 47
Shirley Gut, Boston and Winthrop—Dredging . . .	—	—	—	2,432 34
South Boston, Southerly Shore—Dredging . . .	—	—	—	129,542 08
Stony Beach, Hull—Seawall and riprap . . .	—	8,000 00	—	28,658 05
Town River, Quincy—Survey and Dredging . . .	—	16,050 00	50,615 44	108,278 69
Weir River, Hull—Dredging . . .	—	45,000 00	—	205,336 48
Wessagussett Channel—Dredging . . .	—	—	—	815 20
Weymouth Fore River—Dredging . . .	—	8,250 00	21 93	70,106 62
Winthrop Harbor Channels—Dredging . . .	—	20,567 00	2,132 90	91,169 11
	—	\$252,267 00	\$79,672 34	\$1,455,076 09

EXPENDITURES AND CONTRIBUTIONS FOR RIVER AND HARBOR WORK
FROM DECEMBER 1, 1934, TO NOVEMBER 30, 1935

<i>Location and Character of Work</i>	Contributions	Expenditures
Allen's Harbor, Harwich, survey . . .	\$2,000 00	\$15 75
Barlow's River, Pocasset Harbor, Bourne, survey . . .	—	207 79
Bass River, Beverly, dredging . . .	2,000 00	3,850 75
Bass River, Dennis and Yarmouth, jetty repairs . . .	—	3,798 89

¹ See Mystic River under Boston Harbor table.

Location and Character of Work

Contributions Expenditures

Brant Rock, Marshfield, seawalls and riprap	—	78 75
Cape Cod Canal Pier, Bourne, construction	—	1,842 50
Cape Cod Canal Pier, Bourne, operation and maintenance	—	4,343 90
Cape Poge, Edgartown, dredging	—	4,817 70
Chatham, East of Chatham Light, survey	—	40 00
Connecticut River, Hadley, survey	—	41 59
Connecticut River, Northfield, survey	—	45 15
Dennis:		
Nobscusset Harbor, stone riprap	2,400 00	4,785 50
West Dennis, survey	—	84 30
Duxbury Harbor, Duxbury, dredging	8,000 00	16,255 30
Ellisville Harbor, Plymouth, dredging	—	435 06
Falmouth Heights, Falmouth, seawall repairs, riprap and survey	—	448 17
Falmouth, Great Pond, channel excavation, jetty	5,000 00	10,508 89
Falmouth, Old Silver Beach (Herring River), stone jetty	2,000 00	3,069 30
Falmouth, West Falmouth Harbor, dredging	12,500 00	5,586 10
Great Ponds, survey	—	863 21
Herring River, Harwich, jetty repairs	1,000 00	1,936 24
Hyannis Harbor, Barnstable, riprap	—	5,033 28
Hyannisport, Barnstable, breakwater	18,000 00	36,447 57
Hyannisport, Hall Creek, Barnstable, survey	—	112 10
Hyannisport, Squaw Island Road, Barnstable, survey	2,700 00	72 12
Harwich Shore, Chatham Line to Dennis, survey	—	2,040 01
Harwichport Beach, shore protection	2,000 00	2,487 89
Lagoon Pond, Tisbury, and Oak Bluffs, survey	—	220 09
Lake Anthony, Oak Bluffs, survey	—	172 87
Lynn Harbor—Saugus River, Lynn and Saugus, survey	—	54 75
Manchester Harbor, Manchester, dredging	—	17,742 87
Manomet Point, Plymouth, stone riprap and fill	—	7,277 74
Marine Borer Investigations	—	755 43
Menamsha Inlet, Chilmark and Gay Head, dredging	—	23,751 28
Nantucket Hither Creek, survey	—	220 45
New Bedford State Pier, operation and maintenance	—	9,028 98
New Bedford State Pier, alterations and repairs	—	4,341 03
Nobscusset Harbor—see Dennis		
North Dennis—see Dennis		
Oak Bluffs, riprap	—	78 00
Onset Bay, Wareham, dredging	—	313 55
Pamet River, Truro, survey	—	418 89
Plymouth Harbor, dredging	—	28,195 72
Plymouth—see Manomet Point, Plymouth		
Plymouth Property, dredging and maintenance of	—	35,147 04
Province Lands, Provincetown, reclamation	—	4,988 63
Rock Harbor, Orleans, timber bulkhead, platform and dredging	4,000 00	8,962 53
Rockport Harbor, Rockport, survey	—	5 96
Salisbury Beach, survey	—	297 25
Saugus River, Lynn and Saugus, survey	—	10 44
Scituate Shore Protection:		
Sand Hills to Shore Acres, shore protection	—	50 00
Sand Hills to Scituate, seawall, jetties and survey	—	467 48
North Scituate, Surfside, seawall repairs	—	1,267 36
Scituate Harbor, dredging	—	11,491 67

<i>Location and Character of Work</i>	Contributions	Expenditures
Sengekontacket Pond, Oak Bluffs, survey	—	225 00
Singing Beach, Manchester, stone riprap	—	8,714 22
Smith's Cove, Gloucester, survey and dredging	—	16,318 15
South Harwich, jetties	—	900 48
South Hyannis, Barnstable, survey	7,987 34	41 15
South Yarmouth Beach, Yarmouth, jetties	5,000 00	8,480 86
Waquoit Bay, Falmouth, jetty repairs	—	9,288 68
Water Conservation	—	5,000 00
West Chop, Tisbury, riprap	—	7,929 46
West Dennis—see Dennis		
Westport River, Westport, survey	—	476 70
Winthrop Shore, Winthrop, breakwater	—	43,854 04
Wrecks, removal from tidewater	—	95 73
Improvement of Rivers and Harbors, general ex- penses	—	11,529 65
	<hr/> \$74,587 34	<hr/> \$377,331 94

EXPENDITURES AND CONTRIBUTIONS FROM 1893 TO 1935, INCLUSIVE, FOR RIVER AND HARBOR WORK, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS (EXCEPTING BOSTON HARBOR)

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Acushnet River, inspection and dredging	—	\$119,810 10
Allens Harbor, Harwich, shore protection, dredg- ing, riprap and jetties	\$20,927 50	51,378 37
Allens Pond, Dartmouth, survey	—	195 95
Angle Tree Monument—Reservation	—	1,306 22
Annisquam River, Gloucester, dredging, removing ledges and riprap	13,250 00	171,498 69
Apponagansett Harbor and River, Dartmouth, sur- vey, dredging and stone breakwater	—	55,786 05
Barlow's River, Pocasset Harbor, Bourne	—	207 79
Barnstable Harbor, Barnstable, dredging	7,500 00	30,693 16
Bass River, Beverly, dredging	57,535 75	84,953 51
Bass River, Dennis and Yarmouth, jetties, dredging and survey	25,095 00	192,092 22
Beach Street, Scituate—see Scituate		
Beverly Harbor, Beverly, dredging	—	50,000 00 ¹
Brant Rock, Marshfield, shore protection	111,503 66	231,026 89
Brewster, Skaket Inlet, survey	—	617 19
Bucks Creek, Chatham, jetties, survey and dredg- ing	2,500 00	39,719 69
Buzzards Bay, Falmouth, survey	—	166 11
Cape Cod Canal Pier, Bourne, construction	—	264,267 22
Cape Cod Canal Pier, Bourne, operation and maintenance	—	11,025 18
Cape Poge, Edgartown, cut through beach, dredg- ing, jetties and riprap	16,500 00	60,636 03 ²
Cataumet Harbor—see Megansett Harbor		
Cedar Point, Scituate—see Scituate		
Centerville River, Barnstable, dredging	19,711 50	44,329 77
Chatham, riprap and surveys	10,500 00	19,853 19
Cohasset Harbor, Cohasset, breakwater and dredg- ing	42,691 88	116,191 93

¹ State funds expended under direction of U. S. Government.

² \$17,543.96 expended from U. S. Government funds (Emergency Public Works Administration).

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Concord River, Billerica, removing boulders . . .	150 00	1,664 59
Connecticut River, Agawam, protective work . . .	—	18,814 42
Connecticut River, Chicopee, survey wall and riprap . . .	640 00	25,789 02
Connecticut River, Deerfield, survey and riprap . .	—	1,227 31
Connecticut River, investigation of navigation and surveys . . .	—	8,878 96
Connecticut River, Greenfield, survey and riprap . .	—	1,607 76
Connecticut River, Hadley, survey, diversion wall and riprap . . .	7,000 00	124,596 54 ³
Connecticut River, Hatfield, dikes and riprap . . .	1,000 00	51,568 48
Connecticut River, Holyoke, dredging and protec- tive work . . .	1,991 29	9,253 27
Connecticut River, Holyoke, marking and lighting old piers . . .	—	1,195 32
Connecticut River, Northampton, riprap . . .	—	1,524 20 ⁴
Connecticut River, Northampton, riprap . . .	—	617 37
Connecticut River, Northfield, survey and riprap . .	—	14,268 66
Connecticut River, South Hadley, wall . . .	1,000 00	7,379 58
Connecticut River, Springfield and West Spring- field, protective work . . .	—	15,017 85 ⁵
Conservation of Waters, investigation . . .	—	93,764 54
Cotuit Harbor, Barnstable, dredging, survey and bulkhead repairs . . .	17,845 10	92,828 26
Cuttyhunk Harbor, Gosnold, jetties and dredging . .	10,000 00	83,935 78
Deacon Pond Harbor—see Falmouth Inner Harbor		
Dennis:		
Dennisport, stone jetty . . .	1,200 00	2,315 47
Nobscusset Harbor, breakwater and riprap . . .	6,710 00	48,564 29
North Dennis, stone jetty . . .	1,200 00	4,819 70 ⁷
Swan Pond River, stone jetties . . .	1,750 00	3,906 74
West Dennis, stone jetty and survey . . .	750 00	1,709 03
Duxbury Bay and Harbor, dredging and survey . .	35,000 00	109,104 31
East Bay, Osterville, jetties, dredging and removing scows . . .	10,000 00	70,969 75
Edgartown Harbor, Edgartown, survey and cut in beach . . .	300 00	3,496 64
Ellisville Harbor, Plymouth, dredging and jetty repairs . . .	—	21,108 64
Essex County Beaches, survey . . .	—	1,000 00
Essex River, Essex, dredging . . .	—	76,304 33 ⁶
Fall River Harbor, improvement . . .	—	1,130 18
Falmouth, Great Pond, channel excavation and jetty . . .	5,000 00	10,508 89
Falmouth Heights, Falmouth, survey, seawall and riprap . . .	23,460 04	73,351 19
Falmouth Inner Harbor, dredging, jetties, wall and riprap . . .	33,500 00	154,279 63
Falmouth, Menauhant Shore, bulkheads, jetties and riprap . . .	3,100 00	6,075 33
Falmouth, Old Silver Beach (Herring River), stone jetty . . .	2,000 00	3,069 30

³ From 1888, inclusive.⁴ This location is now part of Holyoke.⁵ From 1891, inclusive.⁶ Includes \$5,000 expended by U. S. Government.⁷ Transferred \$2,603.37 from Nobscusset Harbor, Dennis.

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
First and Second Cliffs, Scituate—see Scituate		
Fresh Water Cove, Gloucester, dredging	3,300 00	17,477 53
Gay Head, survey	—	555 42
Geological Survey Trust Fund	3,000 00	3,000 00
Glades, North Scituate—see Scituate		
Gloucester Fish Pier	—	396 91
Gloucester, Western Avenue, sea wall	35,000 00	60,000 00
Gloucester Harbor, Gloucester, dredging and re- moving ledges	15,000 00	148,802 79
Great Head, Winthrop—see Winthrop Shore		
Great Ponds, survey	—	30,534 31
Green Harbor, Marshfield, jetties, dredging and survey	42,500 00	167,361 13
Gun Rock Point, Hull, breakwater and seawall repairs	16,135 41	77,939 33
Harbor Cove, Gloucester, survey and dredging	3,866 00	25,155 04
Harwichport Beach, Harwich, shore protection	6,000 00	9,389 07
Harwich Shore, near Chatham Line, stone jetty	350 00	1,206 75
Harwich Shore, Chatham to Dennis, survey	—	2,040 01
Herring Creek, Scituate, survey	—	253 76
Herring River, Harwich, jetties, dredging and riprap	38,300 00	136,669 22
Herring River, Wellfleet, dikes and ditches	10,000 00	44,714 55
Hoosac River, North Adams, excavation and survey	—	21,271 67
Housatonic River, Sheffield, survey	—	2,011 29
Hull, seawall and jetties	8,882 06	42,093 96
Humarock Beach, Scituate—see Scituate		
Hyannis Harbor, Barnstable, bulkhead, dredging and riprap	21,750 00	45,582 46
Hyannisport, Squaw Island Road, Barnstable	2,700 00	72 12
Hyannisport, Barnstable, survey and breakwater	20,500 00	101,465 33
Hyannisport, Halls Creek, Barnstable, survey	—	112 10
Improvement of Rivers and Harbors, general ex- penses	—	73,896 24
Ipswich River, Ipswich, jetty wall, riprap and dredging	3,800 00	60,087 07
Kings Beach, Swampscott, removal of obstruction	—	166 41
Lagoon Pond, Tisbury and Oak Bluffs, survey, dredging and jetty	13,500 00	26,075 99
Lake Anthony, Oak Bluffs, survey, jetties and dredging	16,000 00	98,571 08
Lake Quannapowitt, Wakefield, investigation	—	345 32
Lake Quinisigamond, Worcester, investigation	—	1,760 56
Lake Tashmoo, Tisbury, survey	—	432 88
Lewis Bay, Barnstable, survey and dredging	18,809 29	66,874 33
Little Harbor, Cohasset, survey	500 00	1,476 77
Little Harbor, Marblehead, dredging	2,500 00	11,166 16
Little River, Gloucester, survey	—	862 93
Lobster Cove, Gloucester, dredging	4,500 00	61,603 36
Long Beach, Rockport, seawall	27,700 00	57,306 56
Lynn Harbor, Lynn, anchorage basin, survey and dredging	5,200 00	121,609 22
Lynn Harbor and Saugus River, dredging and filling	37,500 00	165,932 29
Manchester Harbor, Manchester, survey, jetties and dredging	83,000 00	207,581 75

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Manomet Point, Plymouth, stone riprap and fill	7,250 00	13,920 20
Marine Borer Investigations	—	755 43
Marshfield-Duxbury, survey	—	358 61
Mattapoissett Harbor, survey	—	255 48
Megansett Harbor, Bourne and Falmouth, dredg- ing	13,330 00	53,459 84
Menamsha Inlet, Chilmark and Gay Head, jetties, dredging, seawall and riprap	2,700 00	153,994 71
Merrimack River, investigation	—	1,208 50
Merrimack River Mouth, Newburyport, survey	—	111 87
Mill River, Gloucester, survey and dredging	300 00	24,899 59
Mitchells River, Chatham, survey and dredging	6,000 00	23,113 92
Monument Beach, Bourne, survey	—	326 40
Nahant, survey and riprap	15,000 00	30,177 19
Namequoit River and Pleasant Bay, Chatham, dredging	6,250 00	31,943 68
Nantucket Harbor, dredging	5,000 00	58,982 52
Nantucket, Hither Creek, survey	—	220 45
Nantucket, survey of Sesachacha Pond	—	110 66
Nauset Harbor and Town Cove, Orleans, dredging	2,000 00	10,671 24
New Bedford Harbor, dredging	—	18,856 57
New Bedford State Pier, shed, dredging, repairs and alterations	13,446 74 ⁸	562,934 19
New Bedford State Pier, operation and maintenance	—	89,571 99
Newburyport Harbor, survey	—	115 97
Nobscusset Harbor, Dennis—see Dennis		
North Dennis—see Dennis		
North River, Marshfield, survey and removing rocks	1,800 00	8,658 75
North River, Salem, survey	—	719 45
North Scituate—see Scituate		
Oak Bluffs, removing rocks	—	594 95
Oak Bluffs, sea walls, bulkhead and jetties	60,000 00	160,757 24
Ocean Grove, Swansea, survey	—	143 23
Onset Bay, Wareham, survey and dredging	1,000 00	15,866 55
Orleans, survey	—	104 18
Palmers Pond, Falmouth, survey	—	358 76
Pamet River, Truro, survey, dredging and repair- ing jetties	1,200 00	198,429 21
Paskamansett River, Dartmouth, dredging and jetty	—	5,227 68
Penikese Island, Gosnold, pile wharf and survey	—	5,192 95
Pines River, Revere and Saugus, survey	—	904 80
Pleasant Bay, Chatham, dredging	600 00	2,364 33
Plum Island River, Newbury and Newburyport, survey	—	983 31
Plymouth Harbor, dredging and removing old piling	92,794 55 ⁹	352,760 74
Plymouth Memorial Park, dredging and mainte- nance	—	86,719 26
Point Shirley, Winthrop—see Winthrop Shore		
Poponessett Bay, Barnstable and Mashpee, dredg- ing	—	46,252 33
Powow River, Amesbury, dredging channel and rip- rapping wall	—	502 94

⁸ Paid by Surety Company.⁹ \$57,000 expended under direction U. S. Government.

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Province Lands, Provincetown, reclamation . . .	—	176,276 81
Provincetown Harbor, shore protection . . .	2,575 00	45,302 99
Quamisset Harbor, Falmouth, survey . . .	—	710 31
Quanset Harbor, Orleans, survey and dredging . .	500 00	2,194 50
Red Brook Harbor, Bourne, removing pier . . .	—	275 00
Revere, stone breakwater . . .	—	60,397 93
Rock Harbor, Orleans, timber bulkhead, platform and dredging . . .	10,400 00	37,753 77
Rockport Harbor, Rockport, dredging and remov- ing rocks . . .	4,750 00	32,945 41
Roughans Point, Revere . . .	—	250 65
Sagamore Beach, Bourne, stone jetties and riprap .	5,000 00	10,591 83
Salem Harbor, Salem, survey . . .	—	1,509 92
Salisbury Beach, survey . . .	—	5,051 52
Salt Pond River, Eastham, survey . . .	—	210 11
Salters Point, Dartmouth, breakwater . . .	4,500 00	42,939 57
Sand Hills, Scituate—see Scituate		
Sandwich Harbor, Sandwich, dredging channel, rip- rap and jetties . . .	—	80,579 84
Saugus River, Lynn and Saugus, survey and dredg- ing . . .	2,000 00	20,855 61
Scituate, shore protection . . .	75,000 00	
Beach Street, Scituate, wall and breakwater . .	17,333 52	34,782 50
Cedar Point, Scituate, wall and breakwater . .	21,446 64	41,298 70
First and Second Cliffs, Scituate, wall and riprap .	2,797 92	19,553 12
Glades, North Scituate, filling and riprap . . .	13,250 78	40,164 61
Humarock Beach, Scituate, survey, wall and jetties . . .	37,816 38	83,583 74
North Scituate, Surfside, sea wall, jetties and riprap . . .	2,194 68	34,412 20
Sand Hills, Scituate, survey, wall and jetties . .	6,011 26	38,170 07
Third Cliff, Scituate, riprap and survey . . .	75,193 10	139,384 98
General Surveys at Scituate . . .	—	543 73
Shore Acres, Scituate, riprap . . .	—	20,488 98
Sand Hills to Shore Acres, sea wall, jetties and riprap . . .	—	33,490 52
Scituate Harbor, dredging and surveys . . .	53,300 00	217,503 61
Scorton Harbor, Sandwich, jetty and dredging . .	500 00	17,774 34
Seapuit River, Barnstable, dredging . . .	13,000 00	25,110 95
Sengekontacket Pond, Oak Bluffs, survey . . .	—	329 28
Sesuit Harbor, Dennis, jetty . . .	1,500 00	24,555 10
Shirley Gut, Winthrop, survey . . .	—	201 06
Singing Beach, Manchester, survey . . .	7,562 50	12,732 92
Sippican Harbor, Marion, survey . . .	—	615 66
Smiths Cove, Gloucester, survey and dredging . .	3,875 00	29,784 31
South Harwich, stone jetties and riprap . . .	2,500 00	5,351 97
South Hyannis, Barnstable, survey . . .	7,987 34	41.15
South River, Marshfield and Scituate, survey . .	—	724 85
South River, Salem, dredging . . .	3,000 00	13,462 66
South Watuppa Pond, Fall River, fenders and excavation . . .	—	203 42
South Yarmouth Beach, Yarmouth, jetties . . .	5,000 00	8,480 86
Stage Harbor, Chatham, dikes and survey . . .	—	14,901 80
Stream Gauging—see Conservation of Waters		
Swampscott, survey . . .	—	103 46
Swan Pond River, Dennis—see Dennis		

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Taunton-Brockton, waterway investigation	—	5,278 18
Taunton River, survey and dredging	42,500 00	31,561 95
Taunton River-Boston Harbor Canal, survey	—	9,932 75
Taunton River-Massachusetts Bay Canal, survey	—	11,786 71
Truro Beach, survey	—	71 74
Vineyard Haven Harbor, Tisbury, breakwater and dredging	1,000 00	45,518 25
Vineyard Haven Harbor, repairing sea wall	2,380 50	11,945 01
Waquoit Bay, Falmouth, breakwater, wall, bulkhead and dredging	17,500 00	107,727 59
Wareham River, Wareham, survey and dredging	5,000 00	42,567 93
Warrens Cove, Plymouth, sea wall and survey	15,213 98	38,412 87
Watch Hill, Chatham, survey and riprap	—	14,968 75
Water Conservation—see Conservation of Waters		
Wellfleet Harbor, Wellfleet, survey and dredging	1,500 00	17,600 29
West Bay, Barnstable and Osterville, dredging, jetties and riprap	17,216 35	120,337 08
West Chop, Tisbury, stone jetties	6,500 00	13,045 53
West Dennis Beach—see Dennis		
West Falmouth Harbor, Falmouth, surveys, dredging and breakwater	23,973 75	69,107 05
West Harwich Beach, Harwich, shore protection	6,400 00	27,242 50
Western Avenue Seawall, Gloucester — see Gloucester		
Westfield River, Westfield, survey and jetties	—	6,037 29
Westport Harbor, Westport, jetty extension and repairs	—	21,928 88
Westport River, Westport	—	476 70
Wild Harbor, Falmouth, jetty and dredging	15,000 00	55,128 66
Winthrop Shore, Winthrop, sea walls and protective work	81,500 00	341,698 89
Wychmere Harbor, Harwich, jetties and dredging	6,500 00	70,027 91
Woods Hole, Great Harbor, Falmouth, dredging	1,500 00	6,968 86
Wrecks, removal from tidewater	—	21,803 04
Yarmouthport Harbor, survey	7,000 00	95,977 37
Total	\$1,789,954 47	\$9,110,531 03

FEDERAL APPROPRIATIONS AND EXPENDITURES

Federal appropriations and expenditures for improvement of rivers and harbors in Massachusetts from the establishment of the government to the close of the fiscal year ending June 30, 1935, are shown in the following tables furnished by the Chief of Engineers, U. S. Army:—

TABLE NO. 1.—*Localities at Present Under Improvement*

<i>Locality</i>	Expenditures	Appropriations
Gloucester Harbor and Annisquam River	\$552,639 65	\$552,639 65
Lynn Harbor	797,797 49	813,940 94
Boston Harbor	14,730,439 60	14,747,231 81
Plymouth Harbor	471,881 35	471,881 35***
Cape Cod Canal	18,515,518 39	24,444,384 79
Operating and Care, Cape Cod Canal	1,650,597 99	1,835,946 01
Pollock Rip Shoals, Nantucket Sound	1,437,921 25	1,517,029 26
Cross Rip Shoals, Nantucket Sound	42,837 20	48,837 20
New Bedford and Fairhaven Harbor	1,339,922 28	1,750,703 34

*** Exclusive of \$108,400 contributed funds.

<i>Locality</i>	Expenditures	Appropriations
Fall River Harbor	790,149 49	790,149 49
Taunton River	383,838 10	383,838 10
Total	\$40,713,542 79	\$47,356,581 94

TABLE No. 2. — *Localities in Which Work is Not Now in Progress*

<i>Locality</i>	Expenditures	Appropriations
Newburyport Harbor	\$506,708 13	\$506,708 13
Merrimack River	404,466 72	404,466 72
Malden River	149,950 00	149,950 00***
Sandy Bay, Cape Ann, Harbor of Refuge	1,941,478 00	1,941,478 00
Bass River	20,150 41	20,150 41
Buzzards Bay Harbor	2,500 00	2,500 00
Canapitset Channel	9,112 54	9,800 00
Chatham Harbor	12,171 36	13,732 79
Cohasset Harbor	10,000 00	10,000 00
Duxbury Harbor	37,000 00	37,000 00
East Dennis Breakwater	7 57	1,500 00
Edgartown Harbor	25,000 00	25,000 00
Essex River	30,000 00	30,000 00
Hingham Harbor	38,316 58	38,316 58
Hyannis Harbor	221,787 75	221,267 07
Ipswich River	5,617 91	5,617 91
Kingston Harbor	8,940 09	10,000 00
Little Harbor, Woods Hole	18,000 00	18,000 00
Manchester Harbor	23,985 57	23,985 57
Marblehead Harbor	833 42	1,900 00
Martha's Vineyard (Edgartown Harbor)	30,000 00	30,000 00
Powow River	50,940 72	51,000 00
Rockport Harbor	91,229 23	91,229 25
Town River	37,577 41	37,577 41
Vineyard Haven Harbor	55,387 35	55,387 35
Wareham Harbor	95,997 30	96,236 00
Wellfleet Harbor	11,365 57	16,000 00
Westport Harbor and River	3,000 00	3,000 00
Winthrop Harbor	9,000 00	9,000 00
Woods Hole Channel	343,599 92	344,000 00
Beverly Harbor	246,690 41	246,690 41**
Salem Harbor	107,956 57	107,956 57
Mystic River	306,684 84	781,684 84
Dorchester Bay and Neponset River	128,176 44	128,176 44
Weymouth Fore River	641,150 00	641,150 00**
Weymouth Back River	27,000 00	27,000 00
Scituate Harbor	126,590 98	126,590 98
Provincetown Harbor	348,062 72	348,062 72
Harbor of Refuge at Nantucket	694,860 29	809,082 83
Total	\$6,821,295 82	\$7,421,197 98

RECAPITULATION

Total of Table No. 1	\$40,713,542 79	\$47,356,581 94
Total of Table No. 2	6,821,295 82	7,421,197 98
Total	\$47,534,838 61	\$54,777,779 92

** Exclusive of \$100,000 contributed funds.

*** Exclusive of \$62,000 contributed funds.

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
411	West Chop, Tisbury,—shore protection . . .	Merritt-Chapman and Scott Corporation	Aug. 28, 1934
413	Winthrop Breakwater Extension . . .	William R. Farrell .	Aug. 1, 1934
414	Bass River, Beverly,—dredging . . .	Bay State Dredging & Contracting Co. .	Jan. 8, 1935
416	Manomet Point, Plymouth,—protective work .	M. J. Crowley . .	Aug. 21, 1934
417	Singing Beach, Manchester,—protective work .	Thomas A. Mackey .	Aug. 28, 1934
418	Hough's Neck, Quincy,—shore protection . .	City of Quincy . .	Aug. 14, 1934
419	Mystic River,—dredging above and below Malden Bridge	J. S. Packard Dredging Company . . .	Sept. 11, 1934
421	Repairs to pile and timber work at Commonwealth Piers No. 1 and No. 5, at Boston	W. H. Ellis & Son Company	Oct. 30, 1934
422	Commonwealth Piers No. 1 and No. 5, and E Street Storehouse—Roof repairs	Atlantic Roofing & Skylight Works	Nov. 7, 1934
423	Commonwealth Pier 5,—installation of newsash and replacement of broken glass	Maurice M. Devine .	Nov. 13, 1934
424	Pier 1, East Boston,—steel sliding doors . .	Roy Wason . . .	Nov. 13, 1934
425	Castle Island Bulkhead, South Boston . . .	John P. Cavanagh .	Nov. 27, 1934
426	Commonwealth Pier 5,—painting doors and sash in Headhouse	John S. Leonard . .	Nov. 13, 1934
427	Commonwealth Pier 1, East Boston,—movable gangway	Waghorne-Brown Company	Nov. 20, 1934
428	Nobscusset Harbor, Dennis—stonerip-rap . .	Thomas Whalen & Sons, Inc.	Jan. 15, 1935
429	Singing Beach, Manchester,—stone riprap . .	Thomas Whalen & Sons, Inc.	Feb. 5, 1935
430	Great Pond, Falmouth, excavation and jetty .	Frederick V. Lawrence .	May 21, 1935
432	Duxbury Bay, Duxbury—dredging . . .	Bay State Dredging and Contracting Company	Apr. 30, 1935
433	Rock Harbor, Orleans—dredging . . .	Herbert T. Gerrish .	May 21, 1935
434	Falmouth Inner Harbor and West Falmouth Harbor, dredging	Herbert T. Gerrish .	May 21, 1935
435	Old Silver Beach, Falmouth . . .	Frederick V. Lawrence .	May 21, 1935
436	Mystic River,—dredging above and below Malden Bridge	J. S. Packard Dredging Company . . .	July 2, 1935
437	Hyannisport Breakwater—stone extension . .	Bay State Dredging and Contracting Company.	June 11, 1935

AND IN FORCE DURING THE YEAR ENDING NOVEMBER 30, 1935

Condition of Work	Contract Price
Completed Jan. 12, 1935 Completed Jan. 6, 1935 Completed Mar. 11, 1935	For each ton of stone riprap or chips furnished in place in the completed work, \$4.86. For each ton of stone riprap furnished in place in the completed work, \$1.97. For dredging and disposing of dredged material 50 cents per cubic yard, scow measurement.
Completed Mar. 9, 1935	For removing and disposing of boulders \$20 per cubic yard. For stone riprap furnished in place in the completed work, \$1.75 per ton. For furnishing material and filling back of riprap, 30 cents per cubic yard measured in place in the completed work.
Completed Mar. 23, 1935	For each ton of riprap furnished and placed in the completed work, \$1.85. For each cubic yard of gravel or crushed stone furnished and placed in the completed work, 90 cents. For each square yard of bank graded including the furnishing of material and incidental work, 20 cents.
In progress	Commonwealth to pay to City one-half of cost of all labor other than that furnished by Federal Government, one-half actual cost of materials and tools furnished, and one-half actual prices paid for rental of machinery and equipment employed in performance of work, provided the total amount to be paid by the State to the City does not exceed \$10,000,—as authorized by Ch. 322 of Acts of 1934 and by Item 60A of Ch. 384 of the Acts of 1934.
Completed Dec. 28, 1934	For dredging and disposing of dredged material 34.5 cents per cubic yard, scow measurement.
Completed Feb. 8, 1935 Completed May 21, 1935	For removing and disposing of all boulders \$20 per cubic yard. Unit prices. Unit prices.
Completed Apr. 17, 1935	For each light of glass furnished and set to replace broken glass, 70 cents. For each new sash approximately 18 ft. 4 ¹ / ₈ in. by 9 ft. 7 ³ / ₄ in. furnished and set, \$112. For each new sash approximately 18 ft. 4 ¹ / ₈ in. by 8 ft. 3 ³ / ₈ in. furnished and set, \$90. For each steel sliding door furnished and erected, \$146.
Completed May 7, 1935 Completed Oct. 29, 1935	For removing about 980 linear feet of bulkhead and disposing of all material, except that used in repair work, \$2.75 for each linear foot of bulkhead removed. For repairing bulkhead by splicing and patching, \$40 for each M Ft. B M of lumber placed in the work. For repairing bulkhead by driving sheeting \$60 for each M Ft. B M of lumber placed in the work. For refitting and securing piles \$5 for each pile refitted and secured. For furnishing all ship spikes, bolts and washers, 15 cents for each pound used in the work.
Completed Dec. 21, 1934	For furnishing all material, labor and equipment and painting doors and windows in Headhouse, the lump sum of \$285.
Completed Feb. 12, 1935 Completed May 23, 1935	For furnishing and erecting in place in complete working order the movable gangway, the lump sum of \$1,844. For each ton of stone riprap furnished in place in the completed work \$2.23.
Completed June 7, 1935	For each ton of riprap furnished and placed in the completed work \$2.50. For each cubic yard of screened gravel or crushed stone furnished and placed in the completed work, \$1.65.
Completed Sept. 20, 1935	For each square yard of bank graded including the furnishing of material and all incidental work, 20 cents. For excavating and disposing of the excavated material, 39 cents for each cubic yard. For removing and disposing of all boulders in excess of one cubic yard in volume, \$1.00 for each cubic yard.
Completed June 6, 1935	For furnishing and placing granite stone riprap and granite chips in the jetty and including all incidental work, \$2.83 per ton. For dredging and disposing of dredged material 59.6 cents per cubic yard, scow measurement.
Completed Sept. 28, 1935	For removing and disposing of boulders \$20 per cubic yard. For dredging channel and basin and disposing of excavated material on marsh or flats adjacent to the work, including the construction of necessary dikes, sluices or other barriers, 46 cents for each cubic yard measured in place. For removing and disposing of all boulders, \$10 for each cubic yard.
In progress	For dredging and disposing of the excavated material on marsh or flats by the hydraulic process, including the construction of necessary dikes and sluices or other barrier, 56 cents for each cubic yard measured in place. For removing and disposing of all boulders, \$20 per cubic yard.
Completed July 23, 1935 Completed Aug. 12, 1935	For furnishing and placing stone riprap and granite chips in the jetty and return wall and excavating, including all incidental work, \$2.39 for each ton of 2,000 pounds. For dredging and disposing of the dredged material 54.5 cents per cubic yard, scow measurement.
Completed Sept. 6, 1935	For removing and disposing of boulders \$20 per cubic yard. For each ton of stone riprap furnished in place in the completed work, including all incidental work, \$2.94.

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
438	Allens Harbor and Herring River, Harwich,—dredging.	Herbert T. Gerrish .	June 18, 1935
439	Winthrop,—breakwater extension	William R. Farrell .	July 9, 1935
440	Plymouth State Pier,—building a pile and timber bulkhead and dredging	Lee Construction Com- pany, Inc. . .	July 16, 1935
441	Harwich,—shore protection	Frederick V. Lawrence .	Aug. 12, 1935
442	East Boston, removal of wreck of towboat "Esther Rendle" from National Docks .	M & R Construction Company .	Aug. 13, 1935
443	Waquoit Bay and Falmouth Inner Harbor,—repairs to jetties.	William R. Farrell & Son, Inc.	Aug. 14, 1935
444	Winthrop,—dredging in Pleasant Park Channel & Belle Isle Inlet.	Bay State Dredging & Contracting Co.	Aug. 27, 1935
445	Barnstable,—Seawall and jetties at South Hyannis .	Harry L. Jones . .	Sept. 3, 1935
446	South Yarmouth Beach,—stone jetties . .	Frederick V. Lawrence .	Sept. 3, 1935
448	Squaw Island Road, Barnstable,—stone jetties .	Frederick V. Lawrence .	Sept. 4, 1935
449	Town River, Quincy—dredging	J. S. Packard Dredging Co.	Sept. 4, 1935
450	Onset Bay, Wareham—dredging	Herbert T. Gerrish .	Oct. 4, 1935
451	Plymouth Harbor—dredging	Bay State Dredging & Contracting Co.	Oct. 4, 1935
452	Smith's Cove, Gloucester,—dredging	J. S. Packard Dredging Company.	Oct. 4, 1935
453	Manchester Harbor,—dredging	Bay State Dredging and Contracting Company.	Oct. 4, 1935
454	Scituate Harbor,—dredging	Bay State Dredging and Contracting Company.	Oct. 4, 1935
455	Menamsha Creek, Chilmark and Gay Head—dredging.	Bay State Dredging and Contracting Company.	Oct. 4, 1935
456	Commonwealth Pier 5, South Boston—office partitions.	Morris Slotnick . .	Nov. 5, 1935

AND IN FORCE DURING THE YEAR ENDING NOVEMBER 30, 1935

Condition of Work	Contract Price
Not yet begun (1935)	For dredging and disposing of excavated material on land, flats or at sea, 43 cents for each cubic yard measured in place.
Completed Sept. 3, 1935	For removing and disposing of all boulders, \$20 for each cubic yard.
In progress	For each ton of stone riprap furnished in place in the completed work, \$2.17.
Completed Nov. 23, 1935	For dredging 60 cents per cubic yard measured in place.
Completed Sept. 28, 1935	For removal of boulders, \$5 per cubic yard.
Completed Oct. 22, 1935	For building pier and bulkhead,—unit prices.
	For furnishing and placing granite stone riprap and chips in the jetties, \$2.68, for each ton of 2,000 pounds.
	For removing and disposing of the wreck of the "Esther Rendle," the lump sum of \$723.
	WAQUOIT BAY:
	For each ton of heavy stone riprap furnished in place in the completed work, \$3.37.
	For each ton of stone chips furnished in place in the completed work, \$3.57.
	FALMOUTH INNER HARBOR:
	For each ton of heavy stone riprap furnished in place in the completed work, \$3.37.
	For each ton of fine stone chips furnished in place in the completed work, \$4.27.
	For each cubic yard of material excavated and backfilled in the completed work, \$1.00.
Completed Sept. 27, 1935	For dredging areas specified to depths indicated and disposing of dredged material, 56.8 cents per cubic yard measured in scows.
Not yet completed (1935)	For removing and disposing of all boulders, \$20 per cubic yard.
	For furnishing material and constructing concrete sea wall, including all excavation, back filling, removing old walls, crib work, steps, drains and cesspools and all incidental work, \$9.90 for each cubic yard of concrete measured in the completed work.
	For furnishing and placing stone riprap and granite chips in the jetties, \$3 for each ton of 2,000 pounds.
Completed Nov. 30, 1935	For furnishing and placing granite stone riprap and chips in the jetties, \$2.73 for each ton of 2,000 pounds.
In progress	For furnishing and placing granite stone riprap and chips in the jetties, \$2.84 for each ton of 2,000 pounds.
Completed Nov. 15, 1935	For dredging and disposing of dredged material 54 cents per cubic yard, scow measurement.
Not yet completed (1935)	For removing and disposing of boulders \$20 for each cubic yard.
	For removing and disposing of boulders, \$20 per cubic yard.
	For dredging and disposing of the excavated material on marsh or flats by the hydraulic process, including the construction of necessary dikes and sluices or other barrier, 51.5 cents per cubic yard, measured in place.
In progress	For dredging and disposing of dredged material 54.5 cents per cubic yard, scow measurement.
In progress	For removing and disposing of boulders, \$20 per cubic yard.
In progress	For dredging and disposing of the dredged material 54 cents per cubic yard, scow measurement.
In progress	For removing and disposing of boulders \$25 per cubic yard.
In progress	For dredging and disposing of the dredged material 49.8 cents per cubic yard, scow measurement.
In progress	For removing and disposing of boulders, \$20 per cubic yard.
In progress	For dredging and disposing of the dredged material, 56.3 cents per cubic yard, scow measurement.
In progress	For removing and disposing of boulders, \$20 per cubic yard.
In progress	For dredging and disposing of excavated material on marsh or flats by the hydraulic process, including the construction of necessary dikes and sluices or other barriers, 54 cents for each cubic yard measured in place.
Completed Nov. 23, 1915	For removing and disposing of boulders, \$20 per cubic yard.
	Unit prices.

INDEX

General

	PAGE
Appropriations	4
Financial Statements	16
Expenditures	17
Summary of Income	16
General Activities of Department	1
Office Building for Department	1
Organization, under Chapter 16, General Laws, as amended	1
Personnel	2
Recommendations for Legislation	4
Special Reports by Department of Public Works	3

Relating to Highways

Advertising Signs and Devices within the Public View	61
Bond Issue, Chapter 464, Acts of 1935	1
Bridges, in general	43
Fall River-Somerset,—over Taunton River	47
Newburyport-Salisbury,—over Merrimack River	47
New Bedford-Fairhaven,—over Acushnet River	48
Quincy-Weymouth,—over Weymouth Fore River	48
Contracts, signed during the year	23
Co-operative Work, Supervision of Certain Expenditures by Cities, Towns and Counties	20
Expenditures, Summary for the Year	19
Farm-to-Market Roads	40
Federal Aid in Constructing Highways	40
Allotments to Massachusetts	40
Emergency Advance Funds	40
Federal Emergency Relief and Construction Act	40
Mileage	41
Statement of Road Projects	41
Federal Funds	40
Works Program Grade Crossing Abolitions	40
Works Program Highways	40
Gas Tax, transfer of proceeds under Chapter 476, Acts of 1935	13
General Statement as to Surveys, Plans, Estimates and other Work during the year	20
Grade Crossing Abolitions	40
Hayden-Cartwright Act	40
Highway Fund	16
Highway Improvements authorized by Special Acts	27
Petitions, Meetings and Hearings	21
Public Ways, exclusive of State Highways, in certain Towns	56
Allotments or Contributions by the State and Towns	56
Expenditures in Various Counties and Towns	60
Towns where work has been contracted for	56
State Highways	21
Construction and Reconstruction	23
Contracts entered into for work in various Municipalities	23
Expenditures in various Counties and Municipalities	26
Maintenance and Repair	35
Expenditures in Various Counties and Municipalities	35
Permits issued for Opening or Occupying State Highways	21
Petitions received during the year	21
Removal of Snow and Ice	38
Resurfacing and Widening	20
Roadside Maintenance and Development, and Nursery at Sudbury	39

	PAGE
Removal of Brush	39
Sidewalk Construction on State Highways	40
Signs, Direction, Route, Warning, etc.	39
Traffic Control Signals and Regulations	39
Uniform Traffic Signs, Lights, Markings, etc.	38
Town and County Ways	48
Allotments or contributions by the State, Towns and Counties	48
Expenditures in various Counties and Towns	54
Towns where work has been contracted for	48
Type of Road and Length contracted for	48
Works Program Highways and Grade Crossing Abolitions	40
Works Progress Administration	40
Sidewalk Construction	40
Farm-to-Market Roads	40
Roadside Beautification	41, 42

Relating to Registry of Motor Vehicles

Accident Prevention	62
Accident Report Letters	67
Aircraft	64
Analysis of Court Abstracts received	70
Branch Offices	63
Comparative Statement showing Ratio of Yearly Registrations to Death and Injuries; and Suspensions, etc.	68
Conference of Motor Vehicle Administrators	71
Examinations for licenses	63
Expenditures, Analysis of, for 1935	72
Head Lamps and Rear Lamps	67
Insurance, Motor Vehicle Liability	64
Investigations and Prosecutions by Inspectors	68
Motor Vehicle Deaths, Injuries, Collisions	67
Number of Children killed and injured	67
Number of collisions	67
Number of Persons killed and injured	67
Motor Vehicle Equipment, Inspection of	65
Brakes, Lights and Overloads	66
School Bus Inspection	66
Property Damage	64
Registrations, Licenses, Fees	62
Cost of running the Registry of Motor Vehicles	72
Court Fines received by the Treasurer and Receiver General	72
Motor Vehicle Fees Rebated	72
Passenger Cars, Commercial Vehicles and Motor Cycles	62
Receipts, Analysis of	71
Total Receipts, credited Highway Fund, 1935	72
Revocations and Suspensions	68
Safety Work	73
Used-Car Section	70
Motor Vehicle Identification	70
Engine Numbers assigned	71
Motor Vehicles Stolen	71
Reports	71

Relating to Waterways and Public Lands

Allen's Harbor, Harwich	77
Barnstable Shore Protection	78
South Hyannis	78
West Beach	78
Bass River, Beverly	78

	PAGE
Bass River, Dennis and Yarmouth	78
Boston Harbor	73
Abandoned Hulks or Wrecks, Removal of	75
Castle Island Bulkhead	75
Commonwealth Flats at East Boston	74
Aircraft Landing Field—Boston Airport	74
Commonwealth Pier 1	75
Reclamation of Flats	75
Commonwealth Flats at South Boston	73
Commonwealth Pier 5	73
Development of Land South of Summer Street	74
Expenditures for Development and Improvement in Boston Harbor 1859–1935, inclusive	89
Expenditures and Contributions for Improvement of Small Harbors and Channels within Boston Harbor 1893–1935, inclusive	90
Hough's Neck, Quincy	75
Marine Borers	76
Mystic River Dredging	75
Pleasant Park Channel, Winthrop	76
Surveys	76
Town River, Quincy	76
Winthrop Harbor Channel	76
Cape Cod Canal Landing Pier	78
Connecticut River Protective Work	79
Conserving and Equalizing the Flow of Water in Rivers and Streams	88
Contracts made and in force during year ending Nov. 30, 1935	100
Duxbury Harbor, Duxbury	79
Ellisville Harbor, Plymouth	79
Expenditures and Contributions for River and Harbor Work from 1893 to Nov. 30, 1935, excepting Boston Harbor	92
Expenditures and Contributions for River and Harbor Work from Dec. 1, 1934, to Nov. 30, 1935	90
Falmouth Inner Harbor, Falmouth	79
Federal Appropriations and Expenditures in Massachusetts Rivers and Harbors to June 30, 1935	97
Great Pond, Falmouth	79
Great Ponds	86
Access to:	
Asneconick or Comet Pond, Hubbardston	86
Surveys	86
Harwich Shore Protection	80
Herring River, Harwich	80
Hyannisport Breakwater, Barnstable	80
Income, Statement of	16
Licenses and Permits	88
Manchester Harbor, Manchester	81
Manomet Point, Plymouth	81
Menamsha Creek, Chilmark and Gay Head	81
New Bedford State Pier	81
Nobscusset Harbor, Dennis	82
Old Silver Beach, Falmouth	82
Onset Bay, Wareham	82
Plymouth, Commonwealth Property	82
Plymouth Harbor, Plymouth	83
Port of Boston Fund	16
Province Lands	86
Provincetown Tercentenary Commission	83
Rivers, Harbors, Tide Waters and Foreshores outside of Boston Harbor	77
Rock Harbor, Orleans	83

Salisbury Dike	83
Scituate Harbor	84
Scituate Sea Walls	84
Shore Acres	84
Sengekontacket Pond, Oak Bluffs	84
Singing Beach, Manchester	84
Smith's Cove, Gloucester	84
State Boundary Lines	87
Town Boundary Lines	87
Triangulation Stations, Re-establishment of certain	88
Waquoit Bay, Falmouth and Mashpee	85
West Chop, Tisbury	85
West Falmouth Harbor, Falmouth	85
Winthrop Breakwater	85
Yarmouth Shore Protection	85

The Commonwealth of Massachusetts

ANNUAL REPORT

OF THE

Department of Public Works

For the Year Ending November 30, 1936



The Commonwealth of Massachusetts

SEVENTEENTH ANNUAL REPORT

OF THE

DEPARTMENT OF PUBLIC WORKS

YEAR ENDING NOVEMBER 30, 1936

*To the Honorable Senate and House of Representatives of the
Commonwealth of Massachusetts:*

In accordance with the provisions of law, I have the honor, as Commissioner of Public Works, to submit the seventeenth annual report of the Department of Public Works for the year ending November 30, 1936.

The organization of the Department, as defined in Chapter 16, General Laws, as amended by Chapter 297, Acts of 1927, was as follows:

Commissioner of Public Works, WILLIAM F. CALLAHAN

Associate Commissioner, RICHARD K. HALE

Associate Commissioner, FRANK E. LYMAN

Office Building. The office building for this Department is intended to accommodate the various offices of the Department which are located in Boston. Any space not immediately needed for its activities is to be assigned for other State Departments at reasonable rental figures.

Highways. The mileage of new State highways laid out during the year amounted to 13.03 miles, but there were abandoned or discontinued 1.27 miles of State highways, so that the net mileage of State highways amounted to 1,887.14 miles at the end of the year.

The Department has constructed, reconstructed and widened 51.889 miles of State highways and built 115.542 miles of roads in co-operation with cities, towns and counties under the provisions of Chapter 90, General Laws.

Under the provisions of Section 26, Chapter 81, General Laws, the Department has had charge of the repair and maintenance of 8,935 miles of public ways exclusive of State highways in 177 towns.

Bond Issue. Under the provisions of Chapter 464, Acts of 1935, the Department continued this year the execution of projects of the several classes defined as either highway projects or waterways projects, for the purpose of alleviating conditions resulting from unemployment. During the year the great majority of the cities and towns began work on highway projects approved by the Department, for which this act allotted \$2,300,000. Sidewalk projects were carried out by the Department in cooperation with W. P. A. funds and approval, a total of \$4,000,000 of State funds being contributed by the terms of this act. Construction was begun on projects financed in part through the Bond Issue allotment of \$1,741,877 matched by the Federal Funds under the Hayden-Cartwright Act of 1934. Grade crossing abolitions and highway projects financed in part by the Bond Issue allotments were carried out, as well as the Federal funds designated as "Works Program Highway Funds" amounting to \$3,262,885 and Works Program Grade Crossing Elimination projects carried out in co-operation with the Bureau of Public Roads, with Federal Funds amounting to \$4,210,833.

The reconstruction of the wharf foundations of Commonwealth Pier 5 at South Boston was carried out with funds authorized by this act, together with funds provided by the Federal Government under the Federal Emergency Administration of Public Works. Also, dredging in Boston Harbor and at Weymouth Fore River was done with Bond Issue funds. As a result of this expenditure, the Federal Government has undertaken the deepening of the main ship channel of Boston Harbor to a depth of 40 feet at mean low water.

The engineering and clerical staff of the Department was as follows:

Chief Engineer, GEORGE H. DELANO¹

Highway Engineer, (Projects), FRANKLIN C. PILLSBURY.

Highway Engineer, (Construction), RAYMOND W. COBURN.

¹ Appointed January 1, 1936.

Highway Engineer, (Construction), (Chapter 90, roads),

WILLIAM F. DONOVAN¹

Highway Engineer, (Maintenance), JAMES E. LAWRENCE²

Highway Engineer, (Traffic), EDGAR F. COPELL.³

Bridge Engineer, GEORGE E. HARKNESS.

District Highway Engineers:—

District No. 1, George A. Curtis—Berkshire County and the towns of Worthington, Middlefield and Huntington in Hampshire County, and the towns of Chester, Montgomery, Russell, Blandford and Tolland in Hampden County.

District No. 2, H. D. PHILLIPS—Franklin, Hampshire and Hampden Counties, with the following exceptions: three towns in Hampshire County included in District No. 1 and ten towns in Hampden County included in Districts Nos. 1 and 3.

District No. 3, JOHN A. JOHNSTON—Worcester County and the towns of Brimfield, Holland, Monson, Palmer and Wales in Hampden County.

District No. 4, F. D. SABIN—Middlesex County.

District No. 5, JOSEPH A. MCCARTHY⁴—Essex and Suffolk Counties.

District No. 6, H. O. PARKER—Norfolk and Bristol Counties.

District No. 7, JOHN E. TROY—Plymouth, Barnstable, Dukes and Nantucket Counties.

District Waterways Engineer, for Boston Harbor—JOHN N. FERGUSON.

District Waterways Engineer, for harbors and waterways outside Boston Harbor—FRANCIS L. SELLOW.

Secretary, Mary A. RILEY.

Financial Secretary, FRED FAIR.

Registry of Motor Vehicles

Registrar, FRANK A. GOODWIN.

Deputy Registrar, ANTHONY A. BONZAGNI.

Assistant to the Registrar of Motor Vehicles, ALFRED W. DEVINE.

Chief Administrative Clerk, CHARLES R. GILLEY.

Chief Inspector of Motor Vehicles, ALBERT S. OLSSON.

A detailed report of the activities of the Department for the year is presented herewith.

WILLIAM F. CALLAHAN,
Commissioner of Public Works.

December 1, 1936.

SPECIAL REPORTS TO THE LEGISLATURE

The Department was authorized and directed by the Legislature to make certain investigations, and the reports thereon were made as follows:

The discharge of sewage from the Metropolitan Sewerage Districts into Boston Harbor and its tributary waters. Report made Nov. 21, 1935 by the Special Commission directed to investigate, under Chapter 42, Resolves of 1935. (H. 164 of 1936)

Dredging Westport River in Westport. Report made November 30, 1935, by the Department of Public Works under Chapter 29, Resolves of 1935. (H. 166 of 1936.)

Certain Ways, Bridges, Beaches and Recreational Facilities. Joint Report made Dec. 4, 1935, by the Metropolitan District Commission and the Department of Public Works, acting as a joint board under Chapter 50, Resolves of 1935 (Sen. 100 of 1936).

RECOMMENDATIONS FOR LEGISLATION

The Commissioner of Public Works presented to the State Secretary on December 2, 1936, as required by law, that part of the current annual report which contains recommendations or suggestions for Legislative action as follows:—

1. The Department annually receives requests for the the construction of sea walls or other works for the protection of the shores of many towns from erosion

¹ Appointed March 16, 1936.

² Appointed May 1, 1936.

³ Appointed December 3, 1935.

⁴ Appointed November 16, 1936.

by the sea. The total estimated cost of such construction is far in excess of the funds which the Department has available under the appropriation items for the improvement, development and protection of rivers and harbors, tidewaters and foreshores.

The appropriation items provide that all such expenditure shall be on condition that at least 50 per cent of the cost is covered by contributions from municipalities or other organizations and individuals.

It is believed that authorization should be provided to permit all counties to contribute to the cost of constructing such protective works, both from damage by the sea and erosion by rivers in all parts of the Commonwealth, in order that it might to some extent reduce the burden to which municipalities and individual owners of property bordering thereon are subject when such work is done.

2. The development and modernization of the pier facilities for the expeditious handling of both passengers and freight at the Port of Boston is deemed necessary. In order to accomplish this the Department recommends that it be authorized to acquire any land that may be necessary, and to construct a pier or a series of piers thereon or on lands of the Commonwealth, provided that a lessee or lessees execute a lease of such piers with such a rental that the cost will be amortized over a period of thirty years; and the construction of a pier as a public landing at South Boston.

3. In order to provide for the improvement of Edgartown Harbor, a recommendation is made that an appropriation be made by the Commonwealth, on condition that an appropriation is made by the Federal Government and a contribution is made by the town of Edgartown for this project.

4. The development of the state highway system would be facilitated by an amendment to section 5, Chapter 81, General Laws, to provide that the Department of Public Works shall inaugurate steps to provide for the laying out of state highways in addition to the present law which authorizes county commissioners, aldermen or selectmen to file a petition with the Department requesting that a way be laid out as a state highway. It is believed that the Department should have the authority noted above, and that public hearings shall be ordered by the Department before such a layout is made.

5. On many state highway projects it is found necessary to make alterations to town roads which enter the state highway. Such alterations may be required on account of a necessary change in grade of the state highway which consequently requires a change in the grade of the entering town way, and this may affect the town way for some distance. At the present time, such alterations cannot be made unless such a road is laid out as a state highway, a step which does not seem desirable. It is recommended that the Department be authorized to alter or relocate such connecting town ways as may be necessary by the addition of a new section after section 7, Chapter 81, General Laws.

6. The procedure established by section 65, chapter 159, General Laws, for abolition of railroad grade crossings provides that the Department of Public Works shall annually on or before October 1, file with the Department of Public Utilities lists of grade crossings the abolition of which it suggests for early consideration. It is believed that the Department should be authorized to submit such lists from time to time rather than only once a year, in view of the fact that this restriction of this law delays the inauguration of steps to take advantage of Federal funds that may become available, and such steps as the Department would make in the preparation of construction programs.

(In order to expedite the construction and reconstruction of state highways and improvement of town and county ways under the provisions of chapter 90, General Laws, with funds appropriated annually, it is respectfully suggested that such appropriations for the work of this Department be made at an early date in the legislative session in order to take advantage of the construction season and to complete as much as possible of the contract work within the fiscal years for which funds are appropriated. This would facilitate the early allotment of funds for work under chapter 90.)

7. In a study of improvements for the state highway from Northampton to Greenfield, it becomes evident that when such work is undertaken it will be necessary to make some provisions for the crossings of the location of the Northampton branch of the New York, New Haven and Hartford Railroad in the towns of Hatfield and

Whately. It is understood that at present this railroad is not running, and no information is available as to any date when it may be in operation. It is recommended that in view of such conditions the Department be authorized to enter into agreement with the New York, New Haven and Hartford Railroad to eliminate these underpasses in reconstructing this highway, but that the Department will reconstruct any such underpasses at a later date if the railroad wishes to resume operation.

8. Chapter 433, Acts of 1936, authorizing the construction or reconstruction of bridges over the Connecticut River, provided for a total expenditure of not exceeding 1,000,000 for the Northampton-Hadley bridge. Investigations and present estimates of cost indicate that additional funds are necessary. It is recommended that the act referred to be amended to provide that the work shall be done, but that substantially half of the cost shall be met by Federal funds, whether or not from the Hayden-Cartwright Road Act.

APPROPRIATIONS

Chapter 304, Acts of 1936, making appropriations for the maintenance of departments, boards, commissions, institutions and certain activities of the Commonwealth, etc., is, in part, as follows:—

Item

Requirements for Extinguishing the State Debt.

222. For sinking fund requirements and for certain serial bonds maturing during the present year, the sum of four million two hundred twenty-five thousand seven hundred twenty-one dollars and eighty-three cents, payable from the following accounts and funds in the following amounts:— from the Highway Fund, three million four hundred seventy-nine thousand three hundred eighty-eight dollars and fifty cents; and the remainder from the General Fund \$4,225,721 83

Interest on the Public Debt.

223. For the payment of interest on the direct debt of the commonwealth, a sum not exceeding nine hundred twenty-five thousand dollars, of which sum five hundred sixty thousand dollars shall be paid from the Highway Fund . . . 925,000 00

Service of the Department of Banking and Insurance.

Division of Insurance:

309. For other personal services of the division, including expenses of the board of appeal and certain other costs of supervising motor vehicle liability insurance, a sum not exceeding two hundred twenty-seven thousand one hundred and ninety dollars, of which sum not more than thirty-five thousand dollars may be charged to the Highway Fund . . . 227,190 00

Service of the Department of Corporations and Taxation.

Corporations and Tax Divisions::

315. For the salaries of certain positions filled by the commissioner, with the approval of the governor and council, and for additional clerical and other assistance, a sum not exceeding two hundred thirty-five thousand nine hundred dollars, of which sum not more than fifty thousand dollars may be charged to the Highway Fund to cover the estimated cost of collection of the gasoline tax, so called, and not more than fifty thousand dollars may be payable from fees collected under section twenty-seven of chapter one hundred and thirty-eight of the General Laws, as amended, to cover the estimated cost of collection of alcoholic beverages taxes, so called . . . 235,900 00

Service of the Department of Public Safety.

Division of State Police:

612.	For the salaries of officers, including detectives, a sum not exceeding four hundred ninety-six thousand five hundred sixty-five dollars, of which sum not more than two hundred thousand dollars may be charged to the Highway Fund	\$496,565 00
614	For other necessary expenses of the uniformed division, including traveling expenses of detectives, a sum not exceeding four hundred four thousand dollars, of which sum not more than one hundred fifty thousand dollars may be charged to the Highway Fund	404,000 00

Service of the Department of Public Works.

The appropriations made in the following four items are to be paid three quarters from the Highway Fund and one quarter from the Port of Boston receipts:

631.	For the salaries of the commissioner and the associate commissioners, a sum not exceeding nineteen thousand five hundred dollars	\$19,500 00
632.	For personal services of clerks and assistants to the commissioner, a sum not exceeding ninety-seven hundred and eighty dollars	9,780 00
633.	For traveling expenses of the commissioners, a sum not exceeding two thousand dollars	\$2,000 00
634.	For telephone service in the public works building, a sum not exceeding twenty-four thousand three hundred and twenty dollars	24,320 00

Functions of the department relating to highways (the following appropriations, except as otherwise provided, are made from the Highway Fund):

635.	For the maintenance and operation of the public works building, a sum not exceeding one hundred thirty-eight thousand two hundred and eighty dollars	138,280 00
636.	For the salaries of guards for the public works building, a sum not exceeding twenty-one thousand and thirty-eight dollars	21,038 00
637.	For personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding ninety-one thousand one hundred and forty dollars	91,140 00
638.	For services other than personal, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, a sum not exceeding fifteen thousand dollars	15,000 00
639.	For the suppression of gypsy and brown tail moths on state highways, a sum not exceeding thirteen thousand five hundred dollars	13,500 00
640.	For the construction and repair of town and county ways, a sum not exceeding two million five hundred thousand dollars	2,500,000 00
641.	For aiding towns in the repair and improvement of public ways, a sum not exceeding one million four hundred fifty thousand dollars	1,450,000 00
642.	For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights; for payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery;	

Item

	and for the maintenance of a nursery for roadside planting, a sum not exceeding four million six hundred thousand dollars	\$4,600,000 00
643.	For the purpose of enabling the department of public works to secure federal aid for the construction and reconstruction of highways, including bridges, a sum not exceeding two million eight hundred thousand dollars	2,800,000 00
644.	For administering the law relative to advertising signs near highways, a sum not exceeding twenty thousand dollars, to be paid from the General Fund	20,000 00
645.	For expenses of a topographical survey and map of the commonwealth, in addition to funds received from federal appropriations or private subscriptions, a sum not exceeding fifty thousand dollars	50,000 00
	Registration of Motor Vehicles:	
646.	For personal services, a sum not exceeding one million five thousand five hundred and forty dollars, of which sum fifteen thousand dollars may be charged to the General Fund, and the remainder shall be paid from the Highway Fund	1,005,540 00
647.	For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding four hundred seventy thousand dollars, to be paid from the Highway Fund	470,000 00
648.	For printing and other expenses necessary in connection with publicity for certain safety work, a sum not exceeding one thousand dollars, to be paid from the Highway Fund	1,000 00
	Service of the Committee for Aeronautics:	
649.	For services other than personal, traveling expenses, office rent, publishing of report, office supplies and equipment, a sum not exceeding five thousand dollars	5,000 00
	Functions of the department relating to waterways and public lands:	
650.	For personal services of the chief engineer and assistants, a sum not exceeding fifty-seven thousand four hundred and thirty dollars	57,430 00
651.	For services other than personal, including printing pamphlet of laws and the annual report, and for necessary office and engineering supplies and equipment, a sum not exceeding sixteen hundred dollars	1,600 00
652.	For the care and maintenance of the province lands and of the lands acquired and structures erected by the Provincetown tercentenary commission, a sum not exceeding five thousand dollars	5,000 00
653.	For the maintenance of structures, and for repairing damages along the coast line or river banks of the commonwealth, and for the removal of wrecks and other obstructions from tide waters and great ponds, a sum not exceeding twenty-two thousand five hundred dollars	22,500 00
654.	For the improvement, development and protection of rivers and harbors, tide waters and foreshores within the commonwealth, as authorized by section eleven of chapter ninety-one of the General Laws, as appearing in the Tercentenary Edition thereof, and of great ponds, a sum not exceeding one hundred thousand dollars, and	

Item

	any unexpended balance of the appropriation remaining at the end of the current fiscal year may be expended in the succeeding fiscal year for the same purposes; provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered	\$100,000 00
655.	For re-establishing and permanently marking certain triangulation points and sections, as required by order of the land court in accordance with section thirty-three of chapter ninety-one of the General Laws, as appearing in the Tercentenary Edition thereof, a sum not exceeding one thousand dollars	1,000 00
656.	For expenses of surveying certain town boundaries, by the department of public works, a sum not exceeding five hundred dollars	500 00
657.	For the operation and maintenance of the New Bedford state pier, a sum not exceeding twelve thousand dollars	12,000 00
658.	For the compensation of dumping inspectors, a sum not exceeding two thousand dollars	2,000 00
659.	For continuing the work in gauging the flow of water in the streams of the commonwealth, a sum not exceeding five thousand dollars	5,000 00
660.	For the maintenance and repair of certain property in the town of Plymouth, a sum not exceeding four thousand dollars	4,000 00
661.	For the operation and maintenance of the Cape Cod Canal pier, a sum not exceeding forty-five hundred dollars	4,500 00
662a.	For the construction of a channel from Nantucket Sound to Sengekontacket Pond in the town of Oak Bluffs, and for certain other improvements, as authorized by chapter three hundred and seventy-four of the acts of nineteen hundred and thirty-five, a sum not exceeding twelve thousand five hundred dollars	12,500 00
	Functions of the department relating to Port of Boston (the following items are to be paid from the Port of Boston receipts):	
663.	For the construction of railroads and piers and for the development of certain land, a sum not exceeding ten thousand dollars	10,000 00
664.	For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding one hundred twenty-three thousand dollars	123,000 00
665.	For the maintenance of pier one, at East Boston, a sum not exceeding four thousand dollars	4,000 00
666.	For the maintenance and improvement of commonwealth property under the control of the department in connection with its functions relating to waterways and public lands, a sum not exceeding one hundred ten thousand dollars	110,000 00
667.	For dredging channels and filling flats, a sum not exceeding ninety thousand dollars, the same to be in addition to any unexpended balance of the appropriation made for the purpose in the previous year	90,000 00

Miscellaneous

The following items are to be paid from the Highway Fund, with the approval of the Metropolitan District Commission:

691.	For maintenance of boulevards and parkways, a sum not exceeding six hundred seventy-one thousand two hundred and eleven dollars	\$671,211 00
692.	For resurfacing of boulevards and parkways, a sum not exceeding two hundred seventy-five thousand dollars	275,000 00
693.	For the cost of certain grading and landscaping, a sum not exceeding twenty-five thousand dollars	25,000 00
694.	For expense of supplies and services necessary for procuring Works Progress Administration funds, a sum not exceeding thirteen thousand dollars	13,000 00
695.	For maintenance of Wellington bridge, a sum not exceeding thirty-one hundred and thirty-eight dollars	3,138 00

Unclassified Accounts and Claims

For certain other aid:

701.	For the compensation of certain public employees for injuries sustained in the course of their employment, for present and previous years, as provided by section sixty-nine of chapter one hundred and fifty-two of the General Laws, as most recently amended by section seven of chapter three hundred and eighteen of the acts of nineteen hundred and thirty-three, a sum not exceeding seventy-five thousand dollars, of which sum not more than thirty thousand dollars may be charged to the Highway Fund	\$75,000 00
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DEFICIENCIES

For deficiencies in certain appropriations of previous years, in certain items, as follows:

Service of the Department of Public Works

For the maintenance and operation of the public works building, the sum of thirty-five hundred and nine dollars and nineteen cents, to be paid from the Highway Fund	3,509 19
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Registration of Motor Vehicles:

For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, the sum of nine hundred sixty-seven dollars and thirty cents, to be paid from the Highway Fund	967 30
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Functions of the department relating to waterways and public lands:

For the maintenance and repair of certain property in the town of Plymouth, the sum of three hundred forty-two dollars and ninety-eight cents	\$342 98
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Miscellaneous

For resurfacing of boulevards and parkways, the sum of one hundred dollars, to be paid from the Highway Fund, with the approval of the metropolitan district commission	100 00
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SECTION 3. To provide for increases in the salaries and compensation of certain state officers and employees to be granted under the provisions of sections forty-

five to fifty, inclusive, of chapter thirty of the General Laws, as appearing in the Tercentenary Edition thereof, there is hereby appropriated a sum not exceeding three hundred and fifty thousand dollars, of which sum not more than fifty-five thousand dollars shall be taken from the Highway Fund, not more than twenty thousand dollars from funds of the metropolitan district commission, and the balance from the General Fund, the same to be in addition to any appropriations otherwise made for such salaries and compensation. For the purpose of apportioning the appropriation made by this section, each sum expressed by section two of this act to be available in whole or in part for personal services shall be increased by such amount as will make available for salaries and compensation provided for thereby so much as is required to provide for the aforesaid increases in such salaries and compensation. The state comptroller, in setting up such items for personal services on the appropriation ledger in his bureau, shall take as the amounts appropriated therefor by section one and this section the sums so expressed as increased as aforesaid, and he shall forthwith notify each officer having charge of any office, department or undertaking which receives such an appropriation for personal services of the amount thereof as so set up. The division of personnel and standardization shall furnish, upon the request of the state comptroller, all necessary assistance in carrying out the provisions of this act.

SECTION 4. No expenditures in excess of appropriations provided for under this act shall be incurred by any department or institution, except in cases of emergency, and then only upon the prior written approval of the governor and council.

SECTION 6. No payment shall be made or obligation incurred under authority of any special appropriation made by this act for construction of public buildings or other improvements at state institutions until plans and specifications have been approved by the governor, unless otherwise provided by such rules and regulations as the governor may make.

SECTION 7. No expenses incurred for mid-day meals by state employees, others other than those who receive as part of their compensation a non-cash allowance in the form of full or complete boarding and housing, and those employees who are stationed beyond commuting distance from their homes for a period of more than twenty-four hours, shall be allowed by the commonwealth.

SUPPLEMENTARY APPROPRIATIONS

Chapter 432, Acts of 1936, in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is, in part, as follows:—

SECTION 1. To provide for supplementing certain items in the general appropriation act, and for certain new activities and projects, the sums set forth in section two, for the particular purposes and subject to the conditions stated therein, are hereby appropriated from the general fund or ordinary revenue of the commonwealth, unless some other source of revenue is expressed, subject to the provisions of law regulating the disbursement of public funds and the approval thereof.

SECTION 2.

Item

Interest on the Public Debt.

223. For the payment of interest on the direct debt of the commonwealth, a sum not exceeding thirty-one thousand two hundred thirty-six dollars and eleven cents, to be paid from the Highway Fund and to be in addition to any amount heretofore appropriated for the purpose . . . \$31,236 11

Service of the Department of Public Works..

The appropriation made in the following item is to be paid three quarters from the Highway Fund and one quarter from the Port of Boston receipts:

634. For telephone service in the public works building, a sum not exceeding fifty-four hundred dollars, the same to be in addition to any amount heretofore appropriated for the purpose . . . 5,400 00

	Functions of the department relating to highways (the following appropriations, except as otherwise provided are made from the Highway Fund):	
636.	For the salaries of guards for the public works building, a sum not exceeding sixty-nine hundred and ninety-four dollars the same to be in addition to any amount heretofore appropriated for the purpose	\$6,994 00
637.	For personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding fifty-two hundred and eighty dollars, the same to be in addition to any amount heretofore appropriated for the purpose	5,280 00
638a.	For expense of membership of the department in the American Association of State Highway Officials, a sum not exceeding four hundred and fifty dollars	450 00
	The appropriation made by Item 645 of chapter three hundred and four of the acts of the current year is to be in addition to the unexpended balance of the appropriation made in the fiscal year nineteen hundred and thirty-five.	
	The appropriation made by Item 653b of chapter four hundred and ninety-seven of the acts of nineteen hundred and thirty-five is to be in addition to the appropriation made by Item 574b of chapter three hundred and eighty-four of the acts of nineteen hundred and thirty-four.	
	The comptroller is hereby authorized to certify for payment in anticipation of the receipts of the assessments on the municipalities of the metropolitan parks district and the city of Revere as authorized by chapter three hundred and seventy-five of the acts of nineteen hundred and thirty-four, as amended by chapter four hundred and eighty-seven of the acts of nineteen hundred and thirty-five, any expenses incurred, within the amount authorized, for the widening and reconstruction of Ocean avenue in the city of Revere, as authorized by said chapters.	
	Registration of Motor Vehicles:	
646.	For personal services, a sum not exceeding seventy-five hundred dollars, to be paid from the Highway Fund, and to be in addition to any amount heretofore appropriated for the purpose	7,500 00
647.	For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding ten thousand dollars, to be paid from the Highway Fund, and to be in addition to any amount heretofore appropriated for the purpose	10,000 00
	Functions of the department relating to waterways and public lands:	
654a.	To provide for certain dredging in Provincetown Harbor, a sum not exceeding twenty thousand dollars	20,000 00
660.	For the maintenance and repair of certain property in the town of Plymouth, a sum not exceeding two thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	2,000 00
662b.	For expenses of an investigation relative to the site of Gloucester pier, a sum not exceeding one thousand dollars	1,000 00

Item

662c. For the furnishing of services and supplies in co-operation with federal authorities in connection with Works Progress Administration grants, a sum not exceeding fifty thousand dollars is hereby authorized to be paid out of the unexpended balance of the appropriation authorized by chapter one hundred and forty-four of the acts of the current year.

Miscellaneous

The following items are to be paid from the Highway Fund, with the approval of the Metropolitan District Commission:

691.	For maintenance of boulevards and parkways, a sum not exceeding twelve hundred and seventy-five dollars, the same to be in addition to any amount heretofore appropriated for the purpose	\$1,275 00
692a.	For the cost of making repairs on account of flood damage in co-operation with federal authorities wherever Works Progress Administration grants are possible, a sum not exceeding twenty thousand dollars	20,000 00

Unclassified Accounts and Claims

For certain other aid:

701.	For the compensation of certain public employees for injuries sustained in the course of their employment, for present and previous years, as provided by section sixty-nine of chapter one hundred and fifty-two of the General Laws, as amended, a sum not exceeding twenty-five thousand dollars, to be paid from the Highway Fund, and to be in addition to any amount heretofore appropriated for the purpose	25,000 00
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DEFICIENCIES

For deficiencies in certain appropriations of previous years, in certain items, as follows:

Service of the Department of Public Works

For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights; for payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the maintenance of a nursery for roadside planting, the sum of nine hundred twenty-nine dollars and eighty cents, to be paid from the Highway Fund	929 80
For the maintenance and operation of the public works building, the sum of five hundred eighty-four dollars and thirty-three cents, to be paid from the Highway Fund	584 33
For the improvement, development and protection of rivers and harbors, tidewaters and foreshores within the commonwealth, as authorized by section eleven of chapter ninety-one of the General Laws, as appearing in the Tercentenary Edition thereof, and of great ponds, the sum of forty-nine dollars and thirty cents	49 30
For the settlement of certain land takings in connection with the construction of approaches for the Cape Cod Canal Pier, the sum of thirty-four thousand one hundred and twenty-five dollars	34,125 00

Other Appropriations

662d.	For the cost of constructing a sea wall at Roughan's Point, Revere, as authorized by chapter three hundred and fifty-eight of the acts of the current year, a sum not exceeding eighty-five thousand dollars, the same to be in addition to an appropriation of forty-two thousand five hundred dollars to be assessed as part of the cost of maintenance of parks reservations and to the further sum of forty-two thousand five hundred dollars to be paid into the treasury of the commonwealth by the city of Revere	\$85,000 00
645a.	For the cost of reconstructing a bridge over Mystic river between the city of Medford and the town of Arlington, a sum not exceeding thirty-seven thousand five hundred dollars, the same to be paid from the Highway Fund and to be in addition to contributions made by the metropolitan parks district, the county of Middlesex, the town of Arlington and the city of Medford, as authorized by chapter three hundred and seventy-seven of the acts of the current year	37,500 00

Chapter 437, Acts of 1936, further in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is, in part, as follows:—

SECTION 1. To provide further for supplementing certain items in the general appropriation act, and for certain new activities and projects, the sums set forth in section two, for the particular purposes and subject to the conditions stated therein, are hereby appropriated from the general fund or ordinary revenue of the commonwealth, unless some other source of revenue is expressed, subject to the provisions of law regulating the disbursement of public funds and the approval thereof.

SECTION 2.

Item

Service of the Department of Public Works

Functions of the department relating to highways:

635.	For the maintenance and operation of the public works building, a sum not exceeding fifteen hundred dollars, to be paid from the Highway Fund and to be in addition to any amount heretofore appropriated for the purpose	\$1,500 00
636.	For the salaries of guards for the public works building, a sum not exceeding ten thousand dollars, to be paid from the Highway Fund and to be in addition to any amount appropriated for the purpose	10,000 00
644.	For administering the law relative to advertising signs near highways, a sum not exceeding five thousand dollars, to be paid from the General Fund and to be in addition to any amount heretofore appropriated for the purpose	5,000 00

Functions of the department relating to waterways and public lands:

662.	For the cost of inspection of structures in tidewater outside of Boston Harbor, a sum not exceeding five thousand dollars	5,000 00
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Functions of the department relating to Port of Boston:

668.	For the cost of inspection of structures in tidewater within Boston Harbor, a sum not exceeding ten thousand dollars	10,000 00
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Other Appropriations

643a.	For the cost of constructing certain bridges, as authorized by chapter four hundred and twenty-nine of the acts of the current year, a sum not exceeding two hundred twelve thousand five hundred dollars, the same to be paid from the Highway Fund and to be subject to the conditions of, and in addition to all other funds provided under, said chapter four hundred and twenty-nine	\$212,500 00
643b.	For the cost of constructing certain bridges, as authorized by chapter four hundred and thirty-three of the acts of the current year, a sum not exceeding one hundred and fifty thousand dollars, the same to be paid from the Highway Fund and to be subject to the conditions of, and in addition to all other funds provided under said chapter four hundred and thirty-three	150,000 00

The appropriation of two million dollars for reconstruction and repair of state highways damaged by floods, as made by chapter one hundred and eighty-six of the acts of the current year, is hereby reduced by the sum of one hundred and fifty-three thousand dollars, and said sum shall revert to the Highway Fund revenue account.

HIGHWAY FUND DIVERSION

Chapter 431, Acts of 1936, provided for the transfer of a portion of the proceeds of the gasoline tax from the Highway Fund to the General Fund, as follows:

WHEREAS, The deferred operation of this act would tend to defeat its purpose, therefore it is hereby declared to be an emergency law, necessary for the immediate preservation of the public convenience.

BE IT ENACTED, ETC., AS FOLLOWS:

The state treasurer is hereby authorized and directed to transfer the sum of three million six hundred and fifty thousand dollars from the Highway Fund to the General Fund.

FINANCIAL STATEMENTS

Summary of Income, Year Ending November 30, 1936

HIGHWAY FUND

*(Section 34, Chapter 90, General Laws, as amended)**(See Chapter 288, Acts of 1925)*

Fees (for registration of motor vehicles, licenses to operate, etc.), and fines (penalties, Sundry Courts), net receipts	\$6,699,393	85
Gasoline Tax, net	18,377,265	84
Contributions for highways and assessments (G. L., Ch. 81)	243,142	47
Appropriation balances of previous years reverting	188,634	17
Contributions and Refunds	8,919	65
Sale of old materials and buildings	3,417	74
Reimbursement for repairs to guard rail and other property	8,253	81
Rent of property (Nursery)	190	00
Rent of Space, Public Works Building	51,877	44
Slot Machine Receipts	271	20
Premium and Interest on Bonds	34,392	00
		<hr/>
	\$25,615,758	17

PORT OF BOSTON FUND

(Chapter 91, General Laws)

Rents (leases and permits)	\$143,024	95
Reimbursement for services (inspection of dumping dredged material in Boston Harbor)	350	69
Use of Commonwealth Pier 5 (wharfage, dockage, rentals, etc.)	181,561	34
Use of Commonwealth Pier 1 (rentals, etc.)	5,902	15
Revenue from permits for dumping dredged material at receiving basins	940	29
License charges (for tidewater displacement and occupying Commonwealth tide lands (Boston Harbor)	8,520	80
Telephone Pay Station receipts	334	54
Sales of land	39,878	00
Sundries	3,934	27
Appropriation balances of previous years reverting	552	75
		<hr/>
	\$384,999	78

DEPARTMENT INCOME

(Ordinary Revenue)

Sales (specifications and plans for contracts)	\$3,498	00
Reimbursement for services (inspection of dumping dredged material outside of Boston Harbor, Chap. 196, Acts of 1925)	90	23
License charges (for tidewater displacement and occupying Commonwealth tide lands) outside of Boston Harbor	2,263	81
Certified copying charges	134	00
Sale of Atlas sheets and miscellaneous plans	999	18
Use of Province Lands (S. 25, c. 91, G. L.)	177	00
Permits for advertising signs	26,023	17
Use of New Bedford State Pier	22,662	45
Use of Cape Cod Canal State Pier	6,635	38
Sundries	1	00
		<hr/>
	\$62,484	22

IMPROVEMENT OF RIVERS AND HARBORS TRUST

(Sections 11, 29, Chapter 91, General Laws)

Contributions from towns, individuals or others \$85,834 50

HIGHWAY TRUST

(Section 30, Chapter 81, General Laws)

Federal Aid (reimbursement from United States Government) . . \$3,404,710 61

OTHER FEDERAL AID ON CERTAIN PROJECTS

Massachusetts Project 1301D—Comm. Pier 5 . . . \$204,750 00

Massachusetts Project 1286D—Hull 40,000 00

\$244,750 00

FUNDS CONTRIBUTED FOR WORK UNDER SPECIAL ACTS

Contribution by Metropolitan Parks District
(Chap. 375, Acts of 1934) \$152,500 00Contribution by City of Revere (Chap. 375, Acts
of 1934) 29,440 64Contribution by Metropolitan Parks District
(Chap. 358, Acts of 1936) 42,500 00Contribution by City of Revere (Chap. 358, Acts
of 1936) 42,500 00

\$266,940 64*Total* \$30,065,477 92

EXPENDITURES

The expenditures by the Department under the provisions of General Laws and other acts and the appropriation acts, chapters 304, 432, and 437, Acts of 1936, during the fiscal year ending November 30, 1936, were as follows:

ADMINISTRATIVE

Commissioner, Associate Commissioners, Personal
Services of clerks, stenographers and Commis-
sioners' Travel \$30,541 63

Public Works Building, operation and maintenance . . . 146,185 34

Salaries of Watchmen 35,562 78

Telephone service 29,613 88

\$241,903 63*Total* \$241,903 63

RELATING TO HIGHWAYS

Personal Services—Chief Engineer, clerks and ste-
nographers 96,955 21

Incidentals (printing, postage, supplies, etc.) 15,264 97

Advertising signs, regulation of, personal services
and expenses 20,319 11Suppression of gypsy and brown-tail moths on
State highways in cities and towns 12,483 53

State Highways—Construction (Chap. 81, G. L.)

General contract work \$2,166,385 68

Engineering (Supervision) 518,502 83

Highway Testing Laboratory 7,278 32

Investigation of Worcester Pike 6,646 40

Services as consultant 3,411 64

Concrete Road Instruction 1,271 44

Inspection of bituminous concrete pavemen

(Technical services) 185 39

Geodetic survey	\$497 70	
Chap. 241—Saugus River Bridge—Land taking.	600 00	
Fore River Bridge		
Substructure	\$215,273 94	
Superstructure	51,101 39	
	<hr/>	266,375 33
		<hr/>
<i>Maintenance and Repair of State Highways</i> (Chap. 81, G. L.)		\$2,971,154 73
<i>Reconstruction of State Highways</i>		
General contract work	\$384,326 41	
Engineering, supervision on reconstruction	269,238 17	
	<hr/>	653,564 58
<i>Ordinary Maintenance</i>		
General Maintenance	\$2,314,909 12	
Engineering (Supervision)	432,390 27	
Highway Testing Laboratory	20,422 01	
Care and repair of road building machinery	491,525 01	
Removal of snow on highways	923,283 11	
Road planting and development	24,913 19	
Traffic engineering, signs, and traffic count	366,242 43	
Paint manufacture	22,049 00	
Newburyport Bridge, Salisbury—Newburyport, over Merrimac River, maintenance and operation	4,498 06	
Brightman St. Bridge, Fall River—Somerset maintenance and operation	9,007 06	
New Bedford-Fairhaven Bridge, Acushnet River, maintenance and operation	42,569 96	
Quincy-Weymouth Bridge, maintenance and operation	13,487 40	
Route and detour maps	1,277 02	
Safety Advertising	12,000 00	
Geodetic Survey	4,928 52	
Tractor repairs	11,097 72	
Inspection of bituminous concrete pavement (Technical services)	1,843 12	
	<hr/>	\$4,696,443 00
<i>Construction of Town and County Ways</i> (Sect. 34, Chap. 90, G. L.)		
State's expenditures for work contracted for in cities and towns	\$1,395,555 01	
Engineering and expense (supervision)	494,253 60	
Inspection of bituminous concrete pavement (Technical services)	534 00	
	<hr/>	1,890,342 61
<i>Aiding Towns in the Repair and Improvement of Public Ways</i> (Sect. 26, Chap. 81, G. L.)		
State's expenditures for work contracted for in cities and towns	\$1,359,879 10	
Engineering and expense (supervision)	110,178 27	
	<hr/>	1,470,057 37
<i>Emergency Public Works Construction</i>		344,493 89
<i>Special Acts:</i>		
<i>Highways in Malden, Braintree, Hingham and Weymouth</i>		
Hingham, Braintree and Weymouth		532 00
<i>Highways in Metropolitan District</i> (Chap. 420, Acts of 1930 as amended by Chap. 450, Acts of 1931)		
Section 1. Canton-Dedham-Wellesley, etc.	\$9,090 00	

Section 2. Canterbury St., Boston	\$2,655 00	
Section 3. Land Taking—Neponset River— Milton	6,074 68	
Section 4. West Roxbury-Brookline Parkway	2,570 45	
		\$20,390 13
<i>Abolition of Grade Crossings</i> (Chap. 417, Acts of 1930)		9,606 08
<i>Alewife Brook Parkway Extension</i> (Chap. 302, Acts of 1932)		13,393 34
<i>Traffic Circle, Neponset River</i> (Chap. 341, Acts of 1934)		82,573 46
<i>Reconstruction of Ocean Ave., Revere</i> (Chap. 375, Acts of 1934)		410,604 74
<i>Study relative to Bridges, Turners Falls</i> (Chap. 314, Acts of 1934)		2,211 28
<i>Chelsea North Bridge</i> (Chap. 342, Acts of 1924)		33,306 48
<i>Temporary Bridges over Connecticut River</i> (Chap. 174, Acts of 1936)		450,000 00
<i>Repair of Certain Bridges</i> (Chap. 429, Acts of 1936)		49,998 45
<i>Topographical survey and maps</i>		62,056 99
<i>Expense of membership in American Association of State Highway Officials</i>		450 00
<i>Chap. 464, Acts of 1935—Bond Issue</i>		
Class 1. Cities and towns, engineering, etc.	\$222,809 25	
Class 2. Construction of sidewalks	3,559,302 74	
Class 3. Hayden-Cartwright Act	468,860 57	
Class 4. Grade crossings, etc.	2,588,987 19	
		6,839,959 75
<i>Chap. 186, Acts of 1936—State Highway Flood Damage</i>		1,760,943 40
<i>Total Expenditures for Highways</i>		\$21,907,105 10

SUMMARY OF EXPENDITURES RELATING TO WATERWAYS

General Expenses	\$58,426 25
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Boston Harbor:

Development of Rivers and Harbors (Chap. 464, Class 5, Acts of 1935)	772,980 92
Dredging and Filling	98,573 86
Free Port Investigation (Chap. 48, Resolves of 1934)	345 00
Hough's Neck, Quincy (Chap. 322, Acts of 1934)	1,519 46
Maintenance and Operation of Commonwealth Pier 5, South Boston	130,449 19
Maintenance and Operation of Commonwealth Pier 1, East Boston	2,206 66
Maintenance of Property	104,406 21
Streets, Piers and Railroads	6,126 99
Structures in Tidewater, Boston Harbor, inspection of	2,825 92

Outside Boston Harbor:

Cape Cod Canal Pier, operation and maintenance	4,615 41
Cape Cod Canal Pier, construction	34,125 00
Compensation of Dumping Inspectors	34 08
Development of Rivers and Harbors (Chap. 464, Class 5, Acts of 1935)	183,815 69
Gloucester Fish Pier, Investigation relative to site of (Chap. 432, Acts of 1936)	847 15
Improvement of Rivers and Harbors	135,529 59
New Bedford Pier, operation and maintenance	12,483 95
New Bedford Pier, Improvement of (Chap. 38)	5,613 05
Plymouth Property, expenses of	6,342 98
Plymouth Pier, Reconstruction (Chap. 429, Acts of 1935)	7,721 83

18	P.D. 54
Province Lands, expenses of	\$4,993 60
Provincetown Harbor, Dredging (Chap. 432, Acts 1936)	19,999 59
Repairing damages to shore	19,423 26
Roughans Point Sea Wall (Chap. 358, Acts 1936)	799 49
Salisbury Beach, Improvement of (Chap. 399, Acts 1934)	12,853 70
State Boundary Lines, perambulating	1,254 05
Structures in Tidewater outside Boston Harbor, Inspection of	1,213 89
Stream Gauging	5,000 00
Topographical Survey	912 92
Town Boundaries, surveying	432 66
W.P.A. Grants, Expenses in connection with (Chap. 432, Acts 1936)	14,698 84
<i>Total</i>	<i>\$1,650,571 19</i>

EXPENDITURES RELATING TO THE REGISTRY OF MOTOR VEHICLES

Cost of running the Registry of Motor Vehicles	\$1,493,497 12
Safety Work, Publicity	62 68
Committee on Aeronautics	2,425 61
<i>Total</i>	<i>\$1,495,985 41</i>

SUMMARY OF EXPENDITURES BY DEPARTMENT FOR YEAR ENDING NOVEMBER 30, 1936

Administrative	\$241,903 63
Relating to Highways	21,907,105 10
Registry of Motor Vehicles	1,495,985 41
Relating to Waterways	1,650,571 19
<i>Total</i>	<i>\$25,295,565 33</i>

CO-OPERATIVE WORK—SUPERVISION OF EXPENDITURES

The Department has supervised the expenditures during the year by cities, towns and counties, under Chapter 81, General Laws, as amended, of approximately \$2,049,053.89 for co-operative work, in repairing, maintaining and improving certain public ways, and for other road work for which the towns and cities made contributions. All such work was carried out in conformity with contracts, specifications and plans approved by the Department.

Financial Statement Verified.
Approved.

GEO. E. MURPHY, *Comptroller*.

RELATING TO HIGHWAYS GENERAL STATEMENT

State Highways.—During the year ending November 30, 1936, the Department laid out new State Highways amounting to 13.03 miles in 14 cities and towns. Under Chapter 81, General Laws, as amended by Chapter 427, Acts of 1931, 1.27 miles of State Highways were discontinued or abandoned. The total length of State Highways at the end of the year was 1,887.14 miles.

Highways Constructed in 1936.—Construction has been completed on 11.564 miles of State Highway and 115.542 miles of highway under the provisions of Section 34, Chapter 90, General Laws as amended, making a total of 127.106 miles completed during the year.

Of the above highways completed this year, the classification according to type of pavement is as follows:

- 4.092 miles of reinforced Cement Concrete
- 0.811 mile of Dual (Reinforced Concrete and Bituminous Macadam)
- 28.007 miles of Bituminous Macadam

12.300 miles of Bituminous Concrete
 35.962 miles of Bituminous Concrete (Mixed in Place)
 17.261 miles of Gravel with Bituminous Treatment
 13.418 miles of Gravel
 15.109 miles of Penolithic
 0.416 mile of Granite Block

Resurfacing, Reconstruction and Widening of State Highways.—During the year 6.264 miles of State Highway were widened but not resurfaced, and 34.061 miles were resurfaced or reconstructed and widened. In addition to this work on which the surfacing has been completed, there are several miles of road in various stages of completion which are scheduled to be finished next year.

The Resurfacing or Reconstruction of State Highways in 1936 was divided into types as follows:

0.619 mile of Reinforced Cement Concrete
 26.802 miles of Bituminous Macadam
 4.334 miles of Bituminous Concrete
 2.306 miles of Penolithic

Surveys, Plans and Estimates.—During the year ending November 30, 1936, preliminary surveys, plans and estimates were made as follows:

Reconnaissance surveys in cities and 14 towns, 35.72 miles;
 Reconnaissance plans in 2 cities and 13 towns, 39.85 miles;

For State Highway Construction.—Preliminary surveys in 14 cities and 27 towns, 53.641 miles; plans in 9 cities and 14 towns, 33.725 miles; preliminary estimates in 4 cities and 11 towns, 25.969 miles; lines and grades in 4 cities and 13 towns, 27.876 miles; and final surveys in 2 cities and 10 towns, 26.496 miles.

For State Highway Reconstruction.—Reconnaissance surveys and plans in 1 town, 1.34 miles; Preliminary surveys in 9 cities and 26 towns, 57.010 miles; plans in 7 cities and 16 towns, 30.050 miles; preliminary estimates in 4 cities and 7 towns, 20.720 miles; lines and grades in 4 cities and 6 towns, 20.950 miles; and final surveys in 2 cities and 6 towns, 17.162 miles.

For State Highway Maintenance.—Preliminary surveys in 6 cities and 35 towns, 55.894 miles; plans in 5 cities and 32 towns, 34.428 miles; preliminary estimates in 1 town, 0.009 mile; and lines and grades in 4 cities and 6 towns, 13.039 miles.

Under Section 34, Chapter 90, General Laws, as amended.—Reconnaissance surveys and plans in 2 towns, 1.50 miles; Preliminary surveys in 14 cities and 193 towns, 150.763 miles; plans in 17 cities and 193 towns, 197.756 miles; preliminary estimates in 14 cities and 92 towns 98.863 miles; lines and grades in 18 cities and 136 towns, 136.154 miles; and final surveys in 10 cities and 48 towns, 55.254 miles.

Under the Provisions of Various Acts and Resolves.—surveys, plans, estimates, lines and grades, and final surveys were made as follows:

Chapter 341, Acts of 1934: 0.0076 mile of final survey in 1 city.

Chapter 375, Acts of 1934: 0.767 mile of final survey in 1 city.

Chapter 429, Acts of 1936: 8.568 miles of preliminary surveys in 34 towns; 7.807 miles of plans in 34 towns; and 0.44 mile of preliminary estimates in 3 towns.

During the year the Massachusetts Geodetic Survey, which is a Works Progress Administration project sponsored by the Massachusetts Department of Public Works, has made level, traverse, and triangulation surveys, and has established bench marks, traverse and triangulation stations as follows:

480 miles of first order levels.

960 miles of second order levels.

1820 bench marks.

590 miles of second order traverse, including

870 monumented stations.

130 triangulation stations.

50 magnetic stations.

Permits.—There were 1,418 permits issued during the year for opening or occupying State Highways for various purposes.

Engineering Advice to Other Departments.—Advice to Department of Education; preliminary; preliminary surveys and plans in 1 city, 0.008 miles; preliminary estimate in 1 city, 0.005 mile; lines and grades in 1 city and 1 town, 0.024 mile; and final surveys in 1 town, 0.019 mile.

Advice to Department of Mental Diseases; preliminary surveys and plans in 1 city and 2 towns, 1.259 miles; and preliminary estimates in 1 city, 0.408 mile.

Engineering Advice to Municipal Authorities.—The Department furnished engineering advice without charge to 7 cities and towns in accordance with the provisions of Section 1, Chapter 81, General Laws.

Approval of Specifications.—The Department approved during the year under the provisions of Section 7, Chapter 44, General Laws, as amended, specifications for the construction of roads in 8 cities and towns.

Planting of Trees on State Highways.—During the past year, 2538 trees were planted along roadsides making a total of 76,153 trees thus set out in the past thirty-two years. In addition there were planted throughout the State 4,250 shrubs.

PETITIONS, MEETINGS AND HEARINGS

In addition to the regular weekly meetings of the Department throughout the year, numerous hearings and conferences have been held, including the annual hearings in the several counties in the Commonwealth for the open discussion of questions relating to the public ways, as required by section 1, chapter 81, General Laws; appeals from the action taken by the Registrar of Motor Vehicles in the suspension or revocation of certain licenses to operate motor vehicles in 167 cases; on the matter of outdoor advertising in 10 towns and cities; on the matter of special regulations for motor vehicles in Melrose and North Attleborough; on a petition for the relocation of street railway tracks on Ocean Avenue in Revere; on the matter of the amendment of Section 12 (Stopping and Turning Signals) of the rules and regulations for driving on State highways; on the abolition of grade crossings in 21 towns and cities; and on the matter of the revision of rules and regulations for the reasonable and proper control of the transportation by motor vehicles of personal property over public ways.

Petitions were received and contracts signed during the year as follows:

	Petitions	Contracts
State highways	7	26
Work under section 34, chapter 90, General Laws	—	460
Work under section 26, chapter 81, General Laws	177	177
Work under Special Acts	—	18
Abolition of Grade Crossings	—	17
Miscellaneous	—	3
Total	200	701

STATE HIGHWAYS

Petitions for State Highways

General Laws, Chapter 81, section 4 (Tercentenary Edition), provides that—
 “If county commissioners, aldermen or selectmen adjudge that public necessity and convenience require that the Commonwealth lay out and take charge of a new or existing way as a highway in whole or in part, in their county, city or town, they may apply, by a written petition, to the department, requesting that said way be laid out and taken charge of by the Commonwealth.”

Petitions under the aforesaid section have been received during the year as follows:—

MAYOR AND BOARD OF ALDERMAN OF NORTHAMPTON:—Road locally known as Hatfield Road, extending from North King Street to the dividing line between the city of Northampton and the town of Hatfield, at the Boston & Maine Railroad underpass. Received December 13, 1935.

BOARD OF SELECTMEN OF ORANGE:—Road locally known as South Road, extending southerly from Central Square for about two miles. Received December 27, 1935.

MAYOR AND BOARD OF ALDERMEN OF REVERE:—Road locally known as Squire Road, extending from Broadway westerly to a point near Stevens Street, thence on new location northwesterly to a point on the dividing line between the cities of Malden and Revere, near the intersection of Lynn and Salem

Streets. Also a highway on new location from the dividing line between the cities of Malden and Revere northwrely to the dividing line between the city of Revere and the town of Saugus. Received December 27, 1935.

BOARD OF SELECTMEN OF WESTMINSTER:—Road extending in part on new location from a point at or near West Main Street easterly to a point on the dividing line between the town of Westminster and the city of Fitchburg at or near Old Princeton Road. Received July 28, 1936.

MAYOR AND BOARD OF ALDERMEN OF LEOMINSTER:—Road extending in part on new location from a point on the dividing line between the cities of Fitchburg and Leominster at or near Monoosnoc Brook easterly and southeasterly to a point on the dividing line between the city of Leominster and the town of Lancaster north of White Pond. Received August 6, 1936.

MAYOR AND BOARD OF ALDERMEN OF FITCHBURG:—Road extending in part on new location from a point on the dividing line between the town of Westminster and the city of Fitchburg at or near Old Princeton Road easterly to a point on the dividing line between the cities of Fitchburg and Leominster at or near Monoosnoc Brook. Received August 14, 1936.

BOARD OF SELECTMEN OF RANDOLPH:—Road locally known as the Taunton Turnpike extending from a point on the dividing line between the town of Randolph and the city of Quincy to the dividing line between the towns of Randolph and Canton. Received November 25, 1936.

CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS

(Chapter 81, General Laws, as amended)

The following contracts were entered into during the year for the construction and reconstruction of State highways, and work incidental thereto, in various municipalities:—

Dedham-Bourne

Dec. 31, 1935, contract made with George A. Marshall, of Somerville, for furnishing and installing traffic signals on State highways in Dedham and Bourne. The proposal amounted to \$1,614. Work completed Mar. 5, 1936. Expenditure during 1936, \$1,614.

Greenfield

Jan. 14, 1936, contract made with Antonio Pandiscio, of Fitchburg, for reconstructing about 3,076 feet of State highway on Deerfield Street, the surface consisting of bituminous macadam. The proposal amounted to \$58,156.95. Work completed Oct. 1, 1936. Expenditure during 1936, \$57,049.56.

Bourne

Feb. 12, 1936, contract made with Eastern Contracting Company, of Quincy, for constructing about 16,487 feet of State highway on North County Road and new location, the surface consisting of penolithic pavement. The proposal amounted to \$303,077.37. Work completed Oct. 24, 1936. Expenditure during 1936, \$260,736.22.

Quincy-Weymouth

Mar. 3, 1936, contract made with Edwin C. Lewis, Incorporated, of Boston, for furnishing and installing lighting equipment for the Fore River Bridge and approaches in Quincy and Weymouth. The proposal amounted to \$12,639.98. Work completed Nov. 7, 1936. Expenditure during 1936, \$12,667.55.

Lynn

April 1, 1936, contract made with G. Rotondi & Son, of Melrose, for reconstructing about 3,241 feet of State highway on Broad Street, the surface consisting of bituminous macadam. The proposal amounted to \$44,281.30. Work completed Oct. 21, 1936. Expenditure during 1936, \$58,724.36.

Boston-Dedham

April 15, 1936, contract made with Martino DeMatteo, of Boston, for constructing about 3,400 feet of sidewalks and miscellaneous work on the Dedham-Boston

Cut-Off near the junction of Spring Street, on State highway in Boston, and about 5,223 feet of sidewalks and miscellaneous work on the Dedham-Boston Cut-Off on State highway in Dedham, the surface consisting of bituminous concrete. The proposal amounted to \$29,299.20. Work completed Aug. 31, 1936. Expenditure during 1936, \$31,459.06.

Framingham

April 21, 1936, contract made with Littlefield-Wyman Nurseries, of Abington, for furnishing and planting trees, shrubs and vines at the grade separation at the junction of the Worcester Turnpike and Pleasant Street. The proposal amounted to \$1,648.35. Work completed May 23, 1936. Expenditure during 1936, \$1,608.35.

Quincy-Weymouth

May 26, 1936, contract made with Coleman Bros. Corporation, of Boston, for constructing a traffic circle and approaches at the new Fore River Bridge in Quincy and Weymouth, the surface consisting of penolithic pavement. The proposal amounted to \$74,720.65. Work completed Nov. 6, 1936. Expenditure during 1936, \$66,221.27.

Wayland

June 23, 1936, contract made with Evans Products Company, of Detroit, Michigan, for constructing an electrically controlled warning and highway barrier to be operated by approaching trains, at the intersection of the Boston and Maine Railroad, Eastern Massachusetts Division, and the Boston Post Road, U. S. Route 20. The proposal amounted to \$10,500. Work completed Sept. 30, 1936. Expenditure during 1936, \$9,760.

Quincy-Weymouth

June 30, 1936, contract made with Bay State Dredging & Contracting Co., of Boston, for removing the temporary bridge south of and parallel to the new Fore River Bridge in Quincy and Weymouth. The proposal amounted to \$17,500. Work completed Sept. 10, 1936. Expenditure during 1936, \$15,822.54.

Pittsfield

July 7, 1936, contract made with The Lane Construction Corporation, of Meriden Connecticut, for reconstructing about 10,233 feet of State highway on Dalton Avenue, the surface consisting of bituminous macadam. The proposal amounted to \$239,799.20. Work about two-fifths completed. Expenditure during 1936, \$94,367.88.

Millbury

July 14, 1936, contract made with Frank C. Dolan & Sons, of Boston, for cleaning and painting on Auto Route 20, a grade separation bridge over Millbury Street, the Blackstone River Bridge, and the New York, New Haven and Hartford Railroad Bridge. The proposal amounted to \$1,495. Work completed Nov. 10, 1936. Expenditure during 1936, \$977.50.

Lynnfield-Peabody

July 21, 1936, contract made with Ellsworth H. Lewis, of Andover, for constructing a steel stringer and concrete beam bridge of three spans on the Newburyport Turnpike over the Circumferential Highway in Lynnfield, the construction of about 2,103 feet of State highway on the old location of the Wakefield Branch of the Boston and Maine Railroad and on new location in Lynnfield, and about 18,757 feet of State highway on the old railroad location and on new location in Peabody; the surface, except over the bridge in Lynnfield and the bridge over Lowell Street in Peabody, consisting of Warrenite Bitulithic Pavement, and the surface over the said bridges consisting of bituminous concrete. The proposal amounted to \$843,701.60. Work about one-third completed. Expenditure during 1936, \$264,815.07.

Peabody

July 21, 1936, contract made with Richard White Sons, Inc., of Newton, for constructing a steel stringer and concrete beam bridge of two spans on the Northern Circumferential Highway over Lowell Street. The proposal amounted to \$51,419.70. Work about four-fifths completed. Expenditure during 1936, \$43,667.11.

Pittsfield

July 28, 1936, contract made with The Lane Construction Corporation, of Meriden, Connecticut, for constructing about 1,125 feet of State highway on West Housatonic Street, the surface consisting of reinforced concrete. The proposal amounted to \$26,055.30. Work completed Nov. 28, 1936. Expenditure during 1936, \$23,226.99.

Tyngsborough

Aug. 11, 1936, contract made with Maurice M. Devine, Inc., of Boston, for cleaning and painting the Tyngsborough Bridge, on Auto Route 113. The proposal amounted to \$7,400. Work completed Nov. 13, 1936. Expenditure during 1936, \$6,290.

Wayland

Aug. 18, 1936, contract made with Eagle Signal Corporation, of Arlington, for furnishing and installing traffic control signals on State highway in Wayland. The proposal amounted to \$487. Work completed Sept. 25, 1936. Expenditure during 1936, \$487.

Eastham-Orleans

Aug. 25, 1936, contract made with Michael F. Roach & Sons, Inc., of Bridgewater, for reconstructing about 1,893 feet of State highway on County Road in Orleans, and about 14,900 feet of State highway on said County Road in Eastham, the surface consisting of bituminous concrete. The proposal amounted to \$230,847.25. Work just commenced. Expenditure during 1936, \$4,805.87.

Bourne

Sept. 8, 1936, contract made with Arute Bros., Incorporated, of Bridgewater, for constructing about 6,927 feet of State highway from the southerly end of the traffic circle south of the Bourne Bridge and over new location, the surface consisting of penolithic pavement. The proposal amounted to \$87,944.95. Work about one-sixth completed. Expenditure during 1936, \$15,676.55.

Erving-Gill-Buckland-Charlemont

Sept. 22, 1936, contract made with Maurice M. Devine, Inc., of Boston, for cleaning and painting French King Bridge, on Auto Route 2, in Erving and Gill, over the Connecticut River and, cleaning and painting Scott's Bridge, on Auto Route 2, in Buckland and Charlemont, over the Deerfield River. The proposal amounted to \$15,000. Work just commenced. Expenditure during 1936, \$4,462.50.

Saugus

Oct. 8, 1936, contract made with B. Perini & Sons, Inc., of Framingham, for constructing on the Newburyport Turnpike a steel stringer bridge of two spans with a concrete deck, under Essex Street, a steel stringer bridge of two spans with a concrete deck, under Main Street, a concrete slab extension of a concrete beam bridge over Saugus River, and a steel stringer bridge of two spans with a concrete deck and concrete beam approach span, under Walnut Street. The proposal amounted to \$167,093.45. Work about one-eighth completed. Expenditure during 1936, \$19,217.73.

Malden-Revere-Saugus

Oct. 8, 1936, contract made with C. J. Maney Co. Inc., of Boston, for constructing a steel stringer and concrete bridge of four spans over the Saugus branch of the Boston and Maine Railroad in Revere, a steel stringer bridge with concrete deck over Lynn Street in Malden and Revere, and about 14,553 feet of State highway on Squire Road at Broadway in Revere and on new location in Revere, Malden and Saugus; the surface, except for the aforementioned bridges consisting of penolithic pavement, and the surface over said bridges consisting of bituminous concrete. The proposal amounted to \$825,178.15. Work just commenced. Expenditure during 1936, \$30,107.38.

Lynnfield-Saugus

Oct. 8, 1936, contract made with B. Perini & Sons, Inc., of Framingham, for reconstructing about 18,362 feet of State highway on the Newburyport Turnpike

in Saugus, and about 6,350 feet of State highway on the same road in Lynnfield, the surface consisting of Warrenite Bitulithic Pavement. The proposal amounted to \$1,349,895.25. Work just commenced. Expenditure during 1936, \$35,242.13.

Millbury-Sutton

Oct. 8, 1936, contract made with New Haven Road Construction Company, Incorporated, of Worcester, for constructing about 5,394 feet of State highway on new location in Millbury, and about 6,795 feet of State highway on new location in Sutton, the surface consisting of bituminous macadam. The proposal amounted to \$485,438.60. Work just commenced. Expenditure during 1936, \$33,589.11.

Holyoke-Easthampton

Oct. 8, 1936, contract made with Daniel O'Connell's Sons, Inc., of Holyoke, for reconstructing about 21,832 feet of State highway on Northampton Road in Holyoke, and about 238 feet of State highway on the same road in Easthampton, the surface consisting of bituminous concrete. The proposal amounted to \$484,008.13. Work just commenced. Expenditure during 1936, \$9,860.76.

Millbury

Oct. 27, 1936, contract made with Eagle Signal Corporation, of Arlington, for furnishing and installing traffic control signals on State highway along the Worcester-Providence Pike. The proposal amounted to \$1,077. Work practically completed. No expenditure during 1936.

EXPENDITURES FOR THE CONSTRUCTION OF STATE HIGHWAYS

The expenditures for the construction of State highways in various counties during the year were:—

Barnstable	\$52,077.07	Hampshire	\$40,390.53
Berkshire	54,385.32	Middlesex	238,432.67
Bristol	7,584.07	Norfolk	544,822.74
Essex	149,176.55	Plymouth	12,006.39
Franklin	217,696.22	Suffolk	1,151,555.37
Hampden	22,670.49	Worcester	213,381.98
Total			<hr/> \$2,704,179.40

Details of the foregoing expenditures follow:—

Barnstable County.—\$42,786.43; Dennis, \$689; Eastham, \$3,916.52; Falmouth, \$79.60; Orleans, \$3,916.52; Yarmouth, \$659.

Berkshire County.—Lenox, \$964.68; North Adams, \$28.71; Otis, \$22,996.23; Pittsfield, \$29,150.06; Sheffield, \$1,000.86; Williamstown, \$244.78.

Bristol County.—Dartmouth, \$203.44; North Attleborough, \$7,380.63.

Essex County.—Amesbury, \$85.54; Andover, \$64,696.75; Lynn, \$1,376.59; Newbury, \$4,003.08; Newburyport, \$67,062.68; Saugus, \$11,951.91.

Franklin County.—Montague, \$207,521.79; Orange, \$10,174.43.

Hampden County.—Blandford, \$203.87; Holyoke, \$22,463.50; Southwick, \$3.12.

Hampshire County.—Hadley, \$17,526.18; Huntington, \$5,338.18; Northampton, \$17,526.17.

Middlesex County.—Arlington, \$15,081.13; Belmont, \$2,155.33; Billerica, \$10,792.49; Cambridge, \$3,468.; Chelmsford, \$18,376.41; Concord, \$4,929.43; Framingham, \$65,517.69; Malden, \$17,927.85; Natick, \$77,430.15; Newton, \$9,850.21; Tyngsborough, \$21.34; Wayland, \$12,882.64.

Norfolk County.—Brookline, \$141,503.50; Cohasset, \$1,922.80; Dedham, \$87,689.66; Foxborough, \$24.80; Milton, \$174,713.13; Norwood, \$724.78; Quincy, \$59,336.59; Wellesley, \$18,882.82; Westwood, \$688.07; Weymouth, \$59,336.59.

Plymouth County.—Duxbury, \$24.96; Hingham, \$1,872.37; Middleborough, \$104.86; Scituate, \$3,570.90; Wareham, \$6,433.30.

Suffolk County.—Boston, \$880,815.23; Revere, \$270,740.14.

Worcester County.—Athol, \$28,958.01; Millbury, \$173,183.36; Shewsbury, \$249.65; Worcester, \$10,990.96.

HIGHWAY IMPROVEMENTS AUTHORIZED BY SPECIAL ACTS

In accordance with the provisions of Chapter 406 of the Acts of 1930, the following contract was entered into:—

Fairhaven-New Bedford

Jan. 7, 1936, contract made with Rendle Contracting & Dock Building Company, of Boston, for constructing two fender piers and three dolphins of the New Bedford-Fairhaven Bridge. The proposal amounted to \$15,903. Work completed Aug. 8, 1936. Expenditure during 1936, \$25,847.88.

In accordance with the provisions of Chapter 365 of the Acts of 1933, the following contracts were entered into:—

Billerica-Chelmsford

April 1, 1936 contract made with Randall and Dingley Construction Co., of Sherborn, for constructing sidewalks on Chelmsford Road in Billerica, and on Billerica Road in Chelmsford, the surface consisting of bituminous concrete. The proposal amounted to \$16,658. 50. Work completed July 23, 1936. Expenditure during 1936, \$16,313.96.

Andover

May 5, 1936, contract made with John McCourt Company, of Boston, for constructing about 24,876 feet of sidewalks and miscellaneous work on Lowell Street, the surface of the sidewalks consisting of bituminous concrete. The proposal amounted to \$28,518.75. Work completed July 17, 1936. Expenditure during 1936, \$22,658.47.

In accordance with the provisions of Chapter 375 of the Acts of 1934, as modified by Chapter 487 of the Acts of 1935, the following contract was entered into:—

Revere

April 21, 1936, contract made with M. F. Gaddis, Inc., of Boston, for constructing about 4,232 feet of city highway on Ocean Avenue, the surface consisting of bituminous concrete. The proposal amounted to \$128,659.75. Work completed Oct. 19, 1936. Expenditure during 1936, \$114,459.98.

In accordance with the provisions of Chapter 464 of the Acts of 1935, the following contracts were entered into:—

Lawrence

April 28, 1936, contract made with The Lathrop and Shea Company, of Connecticut for reconstructing about 404.03 feet of highway on Andover Street, and reconstructing a bridge carrying the B. & M. R.R. over Andover Street, the surface of the bridge consisting of bituminous concrete, and the surface of the highway consisting of granite block pavement. The proposal amounted to \$63,623.12. Work completed Nov. 18, 1936. Expenditure during 1936, \$73,421.92.

Amherst

May 12, 1936, contract made with Charles I. Hosmer, Inc., of Greenfield, for constructing about 1100 feet of highway on College Street, and constructing a through steel plate girder bridge carrying the Central Vermont Railway over College Street, the surface consisting of bituminous macadam. The proposal amounted to \$58,759.45. Work completed Nov. 30, 1936. Expenditure during 1936, \$47,667.18.

West Bridgewater

Aug. 12, 1936, contract made with Mario Pandolf Company, Inc., of Needham, for reconstructing about 7,738 feet of highway on West Center Street, the surface consisting of bituminous concrete. The proposal amounted to \$76,272.81. Work about six-sevenths completed. Expenditure during 1936, \$67,021.61.

Holyoke

Aug. 18, 1936, contract made with Daniel O'Connell's Sons, Inc., of Holyoke, for constructing about 6,645 feet of highway on Springfield Street, the surface consisting of bituminous concrete. The proposal amounted to \$144,667.53. Work about four-sevenths completed. Expenditure during 1936, \$86,219.42.

Clinton

Oct. 6, 1936, contract made with Antonio Pandiscio, of Fitchburg, for constructing a deck plate girder bridge of two spans over Nashua River connecting Boylston Street and Chester Street, known as Lancaster Mills Bridge, and approaches thereto the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$76,752.10. Work just commenced. Expenditure during 1936, \$1,948.92.

Pembroke-Marshfield

Oct. 8, 1936, contract made with A. G. Tomasello & Son, Inc., of Boston, for reconstructing about 25,450 feet of highway on Schooset, Water and Church Streets in Pembroke, and on Plain Street, new location and Ocean Street in Marshfield, the surface consisting of bituminous concrete, and the construction of a concrete slab bridge on Plain and Ocean Streets over South River, in Marshfield, the construction of a concrete slab bridge on Plain and Ocean Streets over Waste Water Stream, in Marshfield, and the construction of a concrete slab bridge on Schooset Street over Robinson Creek, in Pembroke. The proposal amounted to \$281,112.08. Work about one-ninth completed. Expenditure during 1936, \$33,213.90.

Attleboro-North Attleborough-Plainville

Oct. 8, 1926, contract made with M. DeMatteo, of Boston, for reconstructing about 1,714 feet of highway on North Main Street in Attleboro, 14,785 feet of highway on New Boston Road in North Attleborough, and 7,835 feet of highway on Taunton Street in Plainville, the surface consisting of bituminous concrete. The proposal amounted to \$227,092.66. Work just commenced. Expenditure during 1936, \$10,115.

In accordance with the provisions of Item 393 of Chapter 249 of the Acts of 1935, the following contract was entered into:—

Amherst

July 29, 1936, contract made with G. Bonazzoli & Sons, of Hudson, for constructing about 1,523 feet of highway on Olmstead Road and Flint Laboratory Drive, the surface consisting of bituminous macadam. The proposal amounted to \$8,993.14. Work completed Sept. 19, 1936. Expenditure during 1936, \$10,144.14

In accordance with the provisions of Item 370 of Chapter 249 of the Acts of 1935, and Item 374A of Chapter 432 of the Acts of 1936, the following contract was entered into:—

Fitchburg

Nov. 24, 1936, contract made with Angelo R. Montuori, of Fitchburg, for constructing about 256 feet of driveway at the State Teachers College, the surface consisting of bituminous macadam. The proposal amounted to \$3,181.05. Work not yet commenced.

In accordance with the provisions of Chapter 433 of the Acts of 1936, the following contract was entered into:—

Deerfield-Sunderland

Oct. 6, 1936, contract made with C. J. Maney Co. Inc., of Boston, for constructing a deck steel truss bridge of 6 spans over the Connecticut River, the surface consisting of bituminous concrete. The proposal amounted to \$641,659.80. Work just commenced. Expenditure during 1936, \$3,187.50.

In accordance with the provisions of Chapter 174 of the Acts of 1936, the following contracts were entered into:—

Greenfield-Montague

Mar. 31, 1936, contract made with T. Stuart & Son Company, of Watertown, for constructing a temporary steel stringer bridge of six spans the surface consisting of wood deck, over the Connecticut River, between Turners Falls and Greenfield, at site of the present White suspension bridge, on old auto route 2. The proposal amounted to \$112,000. Work completed July 22, 1936. Expenditure during 1936, \$130,042.17.

Deerfield-Sunderland

Mar. 31, 1936, contract made with C. J. Maney Co. Inc., of Boston, for constructing a temporary steel trestle bridge with wooden floor over the Connecticut River between Deerfield and Sunderland at the site of the recently destroyed Sunderland bridge, on auto route 116. The proposal amounted to \$124,850. Work completed June 29, 1936. Expenditure during 1936, \$148,750.

South Hadley-Holyoke

April 14, 1936, contract made with The Boston Bridge Works, Incorporated, of Cambridge, for repairing the South Hadley-Holyoke Bridge across the Connecticut River. The proposal amounted to \$100,000. Work completed Sept. 22, 1936. Expenditure during 1936, \$203,621.10

Northampton-Hadley

April 14, 1936, contract made with The Boston Bridge Works, Incorporated, of Cambridge, for repairing the Northampton-Hadley bridge across the Connecticut River. The proposal amounted to \$25,000. Work completed May 29, 1936. Expenditure during 1936, \$21,081.56.

TRAFFIC CONTROL SIGNALS

The following contracts were entered into during the year for furnishing and installing traffic control signals in various municipalities:—

Dedham-Bourne

Dec. 31, 1935, contract made with George A. Marshall, of Somerville, for furnishing and installing traffic signals on State Highway in Dedham and Bourne. The proposal amounted to \$1,614. Work completed Mar. 5, 1936. Expenditure during 1936, \$1,614.

Quincy-Weymouth

Mar. 3, 1936, contract made with Edwin C. Lewis, Incorporated, of Boston, for furnishing and installing lighting equipment for the Fore River Bridge and approaches in Quincy and Weymouth. The proposal amounted to \$12,639.98. Work completed Nov. 7, 1936. Expenditure during 1936, \$12,667.55.

Wayland

Aug. 18, 1936, contract made with Eagle Signal Corporation, of Arlington, for furnishing and installing traffic control signals on State Highway in Wayland. The proposal amounted to \$487. Work completed Sept. 25, 1936. Expenditure during 1936, \$487.

Millbury

Oct. 27, 1936, contract made with Eagle Signal Corporation, of Arlington, for furnishing and installing traffic control signals on State Highway along the Worcester-Providence Turnpike. The proposal amounted to \$1,077. Work practically completed. No expenditure during 1936.

ABOLITION OF GRADE CROSSINGS

(Section 70, Chapter 159 of the General Laws, as amended by Section 1, Chapter 357 of the Acts of 1934)

The following contracts were entered into for the abolition of grade crossings:—

Sheffield

May 5, 1936, contract made with B. A. Gardetto, Inc., of Boston, for constructing a steel stringer bridge and approaches on Ashley Falls Road, the surface of the approaches consisting of bituminous macadam. The proposal amounted to \$106,843.20. Work practically completed. Expenditure during 1936, \$93,795.90.

Braintree

May 19, 1936, contract made with Charles Capone, of Braintree, for constructing

about 519 feet of road on new location, the surface consisting of bituminous macadam. The proposal amounted to \$8,448.95. Work completed July 22, 1936. Expenditure during 1936, \$8,620.51.

Ayer

May 26, 1936, contract made with Coleman Bros. Corporation, of Boston, for constructing a steel bridge and approaches thereto on West Main Street and new location, the surface of the approaches consisting of bituminous macadam. The proposal amounted to \$101,845.25. Work about four-fifths completed. Expenditure during 1936, \$82,851.53.

Lunenburg

June 30, 1936, contract made with Carlo Bianchi and Company, Inc., of Framingham, for constructing a steel stringer bridge with reinforced concrete beam approach spans and approaches thereto on Leominster Road; the surface of the approaches consisting of a penolithic type of pavement. The proposal amounted to \$63,909.75. Work about two-thirds completed. Expenditure during 1936, \$42,761.58.

Foxborough-Mansfield

June 30, 1936, contract made with John Deveney Company, of Boston, for constructing about 4,900 feet of highway on Summer Street in Foxborough and about 1,600 feet of highway on Oakland Street in Mansfield; the surface consisting of gravel and tar mixed in place. The proposal amounted to \$19,398.90. Work completed Nov. 23, 1936. Expenditure during 1936, \$16,365.90.

Sharon

July 7, 1936, contract made with Arute Bros., Incorporated, of Bridgewater, for constructing a steel stringer bridge with reinforced concrete deck and approach spans and approaches thereto on Depot Street and Upland Road, the surface of the approaches consisting of a penolithic type of pavement. The proposal amounted to \$127,093.65. Work about five-sixths completed. Expenditure during 1936, \$107,595.60.

Mansfield

July 29, 1936, contract made with Coleman Bros. Corporation, of Boston, for constructing a single span through plate girder bridge and approaches thereto on School Street, the surface, except over the bridge, consisting of gravel and tar mixed in place, and the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$78,994.20. Work about four-sevenths completed. Expenditure during 1936, \$46,950.41.

Canton-Norwood-Westwood

Aug. 11, 1936, contract made with Martino DeMatteo, of Boston, for constructing steel stringer bridge of three spans with concrete deck over the tracks of the New York, New Haven and Hartford Railroad on Dedham Street in Canton, a creosoted timber pile trestle of seven spans with a concrete deck over the Neponset River, and the approaches thereto, on Canton Street in Norwood and Westwood and Dedham Street in Canton, the surface of the approaches consisting of bituminous macadam. The proposal amounted to \$91,836. Work about one-third completed. Expenditure during 1936, \$37,411.90.

Hopkinton-Westborough

Sept. 8, 1936, contract made with Middlesex Construction Company of Framingham, for constructing a steel stringer and concrete beam bridge of four spans at Rocklawn Crossing over the Boston and Albany Railroad and the Sudbury River in Hopkinton and Westborough, and the approaches thereto, the surface, except over the bridge, consisting of a penolithic type of pavement, and the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$78,524.10. Work just commenced. Expenditure during 1936, \$5,663.55.

Mansfield

Sept. 8, 1936, contract made with Arute Bros., Incorporated, of Bridgewater, for constructing a steel stringer bridge of three spans with a concrete deck on the Elm Street Cut-off over the New York, New Haven and Hartford Railroad and the approaches thereto, the surface, except over the bridge, consisting of gravel and tar mixed in place, and the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$79,574.35. Work about two-sevenths completed. Expenditure during 1936, \$29,262.65.

Ashburnham

Sept. 8, 1936, contract made with G. Rosse & Son, Inc., of Leominster, for constructing a steel stringer bridge with concrete approach spans and the approaches thereto on Winchendon Road, the surface on the approaches to the bridge consisting of bituminous macadam, and the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$103,876.40. Work just commenced. Expenditure during 1936, \$2,394.87.

Monson

Sept. 8, 1936, contract made with B. A. Gardetto, Inc., of Boston, for constructing a steel plate girder bridge with a concrete floor over the tracks of the Central Vermont Railway and over Chicopee Brook on Palmer Road, and the approaches thereto, the surface of the approaches consisting of bituminous macadam, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$104,570.50. Work about one-fifth completed. Expenditure during 1936, \$23,432.17.

Foxborough

Oct. 6, 1936, contract made with Coleman Bros. Corporation, of Boston, for constructing a through plate girder bridge with wrought iron plate deck and the approaches thereto on Cocasset Street, the surface of the approaches consisting of gravel and tar mixed in place. The proposal amounted to \$87,620.05. Work just commenced. Expenditure during 1936, \$2,643.07.

Sharon

Oct. 8, 1936, contract made with B. F. Construction Co., Inc., of New Bedford, for constructing a plate girder bridge over the tracks of the New York, New Haven and Hartford Railroad on South Main Street, and the approaches thereto, the surface of the approaches consisting of bituminous macadam, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$53,031.21. Work just commenced. Expenditure during 1936, \$2,983.50.

Worcester

Oct. 8, 1936, contract made with B. Perini & Sons, Inc., of Framingham, for constructing a steel plate girder bridge with concrete deck over the tracks of the Boston & Maine Railroad on Wildey Avenue, a steel stringer bridge with concrete deck over Neponset Street, and the approaches thereto, the surface of the approaches consisting of a penolithic type of pavement, and the surface on the bridges consisting of bituminous concrete. The proposal amounted to \$325,390.30. Work just commenced. Expenditure during 1936, \$15,511.22.

Grafton-Shrewsbury

Oct. 21, 1936, contract made with Carlo Bianchi and Company, Inc., of Framingham for constructing a steel stringer and concrete beam bridge of three spans over the Boston and Albany Railroad on Shrewsbury Street in Grafton, and approaches thereto on new location in Shrewsbury and Shrewsbury Street in Grafton, the surface of the approaches consisting of bituminous macadam, the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$107,259.60. Work just commenced. Expenditure during 1936, \$556.75.

Section 80, Chapter 159 of the General laws, and acts in amendment thereof and in addition thereto, including particularly Section 11 of Chapter 417 of the Acts of 1930.

Quincy

Jan. 14, 1936, contract made with Coleman Bros. Corporation, of Boston, for constructing a concrete box bridge over Town Brook, constructing the substructure and superstructure for a new overhead bridge and the approaches thereto on Water Street, the surface of the approaches consisting of bituminous macadam, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$238,820.60. Work practically completed. Expenditure during 1936, \$248,849.32.

EXPENDITURES FOR EMERGENCY PUBLIC WORKS CONSTRUCTION

Chapter 365, Acts of 1933

(An act enabling the Commonwealth to secure certain benefits provided by the National Industrial Recovery Act.)

Project	City or Town	Amount
R 1	Lynn-Revere	\$59,435 03
R 5-1	Arlington-Belmont-Lexington	77,618 97
R 5-2	Lexington-Lincoln	16,994 19
R 7	Braintree-Quincy	27,546 47
R 22	Blandford-Russell	14,838 26
R 26	Charlemont	45,688 72
R 29-2	Concord By-pass	36,205 87
R 48	Holyoke	37,996 70
R 49	Charleton-East Brookfield	10,716 69
R 51	Randolph-Braintree	634 82
R 54	Yarmouth-Dennis	16,818 17
TOTAL		\$344,493 89

BOND ISSUE PROJECTS

Chapter 464, Acts of 1935

An Act providing a public works program for the purpose of alleviating existing conditions resulting from unemployment.

Class 1 Projects--Highway Projects Carried Out by Cities and Towns

The disbursements during the year in various counties were:—

Barnstable	\$5,061.54	Middlesex	\$86,531.53
Berkshire	1,976.08	Plymouth	24,753.02
Bristol	37,216.19	Suffolk	9,845.7
Dukes	346.68	Worcester	8,624.92
Essex	17,611.38	Engineering	28,242.17
Franklin	2,600.00		
			Total
			\$222,809.25

Details of the foregoing disbursements follow:—

Barnstable County.—Falmouth, \$5,061.54.

Berkshire County.—Williamstown, \$1,976.08.

Bristol County.—Attleboro, \$6,829.61; Fall River, \$30,386.58.

Dukes County.—Gay Head, \$34.66; Gosnold, \$312.02.

Essex County.—Nahant, \$1,456.06. Salem, \$15,236.62; Wenham, \$918.70.

Franklin County.—Sunderland, \$1,700.; Monroe, \$900.

Middlesex County.—Chelmsford, \$1,924.09; Concord, \$2,617.44; Malden, \$18,894.11; Marlborough, \$4,454.85; Melrose, \$9,707.06; Somerville, \$31,495.94; Waltham, \$14,768.60; Wayland, \$1,508.06; Wilmington, \$1,161.38.

Plymouth County.—Brockton, \$20,592.85; Hull, \$4,160.17.

Suffolk County.—Revere, \$9,845.74.

Worcester County.—Clinton, \$3,137.46; Northorrough, \$2,350. Southbridge, \$3,137.46.

Class 2 Projects—Construction of Sidewalks

The expenditures during the year in various counties were:—

Barnstable	\$1,033.88	Hampshire	\$39,167.33
Berkshire	190,362.45	Middlesex	904,767.13
Bristol	441,873.18	Norfolk	491,543.06
Dukes	79.26	Plymouth	387,184.90
Essex	439,256.15	Suffolk	93,647.10
Franklin	35,172.83	Worcester	414,416.15
Hampden	120,799.32		
		Total	\$3,559,302.74

Details of the foregoing expenditures follow:—

Barnstable County.—Eastham, \$440.56; Orleans, \$593.32;

Berkshire County.—Adams, \$2,122.54; Becket, \$9,224.56; Cheshire, \$7,140.59; Clarksburg, \$4,518.75; Dalton, \$24,404.09; Egremont, \$102.06; Gt. Barrington, \$7,157.86; Hancock, \$13.13; Hinsdale, \$13,569.92; Lanesborough, \$211.52; Lee, \$25,215.37; Lenox, \$4,668.13; North Adams, \$18,292.89; Otis, \$112.47; Pittsfield, \$48,436.29; Sandisfield, \$13.11; Sheffield, \$2,354.18; Stockbridge, \$7,138.65; West Stockbridge, \$44.38; Williamstown, \$15,621.96.

Bristol County.—Acushnet, \$8,507.69; Attleboro, \$25,537.55; Dartmouth, \$69,109.24; Dighton, \$27,111.41; Easton, \$11,641.64; Fairhaven, \$67,238.04; Mansfield, \$2,047.98; Norton, \$7,345.02; North Attleborough, \$14,959.60; Raynham, \$46,839.18; Somerset, \$38,360.87; Swansea, \$21,224.64; Taunton, \$75,103.12; Westport, \$26,847.20.

Dukes County.—Oak Bluffs, \$79.26.

Essex County.—Amesbury, \$12,922.06; Andover, \$11,962.21; Beverly, \$62,822.33; Danvers, \$5,653.15; Essex, \$8,315.42; Gloucester, \$65,688.05; Groveland, \$18,077.91; Hamilton, \$6,339.75; Haverhill, \$15,401.66; Ipswich, \$6,074.42; Lawrence, \$14,866.81; Lynn, \$54,822.24; Lynnfield, \$13.49; Merrimac, \$21,922.06; Methuen, \$10,459.33; Middleton, \$1,999.94; Newbury, \$3,623.68; Newburyport, \$3,186.86; North Andover, \$3,150.93; Peabody, \$101.58; Rowley, \$6,581.96; Salem, \$40,300.40; Salisbury, \$11,799.38; Saugus, \$17,937.31; Swampscott, \$2,693.82; Wenham, \$27,839.36; West Newbury, \$4,699.94.

Franklin County.—Erving, \$5,468.31; Greenfield, \$22,169.21; Orange, \$7,535.31.

Hampden County.—Agawam, \$13,575.47; Blandford, \$4,726.; Brimfield, \$2,148.37; Chester, \$4,055.11; Chicopee, \$15,056.07; East Longmeadow, \$18,372.31; Palmer, \$27,804.24; Russell, \$2,742.74; Westfield, \$12,885.32; West Springfield, \$15,901.14; Wilbraham, \$3,532.55.

Hampshire County.—Amherst, \$9,290.75; Cummington, \$158.57; Easthampton, \$3,894.81; Hadley, \$127.41; Hatfield, \$70.43; Huntington, \$8,238.03; Northampton, \$4,608.26; South Hadley, \$9,296.46; Ware, \$3,455.68; Worthington, \$26.93.

Middlesex County.—Acton, \$4,590.63; Arlington, \$35,722.98; Ashby, \$5,571.91; Ashland, \$1,819.56; Ayer, \$278.45; Bedford, \$4,182.58; Belmont, \$11,752.12; Billerica, \$22,162.31; Boxborough, \$487.05; Burlington, \$7,873.86; Cambridge, \$3,765.34; Chelmsford, \$48,540.40; Concord, \$14,057.70; Dracut, \$81.23; Frammingham, \$112,216.98; Groton, \$157.63; Holliston, \$9,720.03; Hudson, \$5,904.39; Lexington, \$40,502.86; Lincoln, \$157.46; Littleton, \$17,866.70; Lowell, \$46,039.80; Marlborough, \$25,191.89; Medford, \$509.08; Melrose, \$10,725.98; Natick, \$39,649.05; Newton, \$37,258.85; North Reading, \$23,075.23; Pepperell, \$140.01; Reading, \$63,598.19; Shirley, \$294.36; Somerville, \$50,074.49; Stoneham, \$27,230.09; Sudbury, \$6,309.15; Tewksbury, \$7,819.46; Townsend, \$8,127.62; Tyngsborough, \$5,776.28; Waltham, \$23,153.86; Watertown, \$16,687.83; Wayland, \$9,396.76; Westford, \$599.96; Weston, \$11,609.94; Wilmington, \$4,532.75; Winchester, \$27,621.48; Woburn, \$111,932.85.

Norfolk County.—Avon, \$21,292.42; Bellingham, \$25,370.45; Braintree, \$22,589.62; Brookline, \$7,028.21; Canton, \$33,469.34; Dedham, \$72,094.36; Milton, \$29,645.33; Needham, \$33,149.59; Norwood, \$42,320.36; Quincy, \$18,069.82; Randolph, \$44,491.45; Stoughton, \$21,937.75; Walpole, \$2,151.82; Wellesley, \$41,663.07; Weymouth, \$76,269.47.

Plymouth County.—Abington, \$74,901.05; Bridgewater, \$16,922.91; Brockton,

\$100,379.18; East Bridgewater, \$31,708.91; Hingham, \$5,334.68; Hull, \$12,414.74; Kingston, \$17,879.62; Middleborough, \$9,418.07; Norwell, \$19,074.93; Plymouth, \$1,374.64; Rockland, \$17,452.44; Wareham, \$30,829.25; West Bridgewater, \$23,195.61; Whitman, \$26,298.87.

Suffolk County.—Boston, \$29,930.45; Chelsea, \$24,408.18; Revere, \$39,308.47.

Worcester County.—Athol, \$7,321.30; Auburn, \$12,475.85; Barre, \$1,815.88; Blackstone, \$20,568.56; Brookfield, \$15,663.35; Dudley, \$14,027.24; East Brookfield, \$22,688.17; Fitchburg, \$10,415.01; Gardner, \$23,362.63; Grafton, \$3,230.57; Hardwick, \$12,587.48; Harvard, \$45.38; Holden, \$27,840.40; Leicester, \$15,206.24; Leominster, \$6,853.79; Lunenburg, \$86.11; Milford, \$13,064.18; Millbury, \$4,338.05; Northborough, \$5,028.13; Northbridge, \$4,380.34; Oxford, \$815.70; Paxton, \$5,587.78; Phillipston, \$233.84; Rutland, \$7.04; Shrewsbury, \$22,982.78; Southborough, \$24,274.34; Southbridge, \$11,224.28; Spencer, \$32.46; Sterling, \$4,367.57; Sturbridge, \$12,636.53; Sutton, \$10.07; Templeton, \$14,153.64; Uxbridge, \$5,330.67; Webster, \$12,721.67; West Boylston, \$15,594.92; West Brookfield, \$14,424.46; Westminster, \$360.94; Winchendon, \$5,207.56; Worcester, \$43,451.24.

Class 3 Projects—Highway Projects under the Hayden-Cartwright Bill, so called

The expenditures during the year 1936 were as follows:—

Bourne (Barnstable Co.)	\$276,800.86
Lynnfield-Saugus (Essex Co.)	40,951.29
Saugus (Essex Co.)	19,841.99
Millbury-Sutton (Worcester Co.)	35,123.70
Pittsfield (Berkshire Co.)	96,142.73
	<hr/>
	\$468,860.57

Class 4 Projects—Grade-crossing Eliminations, Highway Projects, Maintenance of State Highways

The expenditures during the year in various counties were:—

Barnstable	\$6,697.34	Hampshire	65,208.66
Berkshire	100,916.79	Middlesex	304,920.05
Bristol	91,915.15	Norfolk	555,134.96
Essex	716,093.94	Plymouth	104,329.42
Franklin	94,861.87	Suffolk	65.26
Hampden	140,391.43	Worcester	84,129.56
			<hr/>
		Sub Total	\$2,264,664.43
		Maintenance	324,322.76
			<hr/>
		Total	\$2,588,987.19

Barnstable County.—Bourne, \$6,697.34.

Berkshire County.—Pittsfield, \$168.40; Sheffield, \$100,748.39.

Bristol County.—Attleboro, \$1,000.; Mansfield, \$88,915.15; North Attleborough, \$2,000.

Essex County.—Danvers, \$1,147.50; Lawrence, \$62,520.19; Lynn, \$53,253.41; Lynnfield-Peabody, \$275,140.29; Lynnfield, \$22,495.84; Lynnfield-Saugus, \$30,706.52; Newbury-Newburyport, \$224,140.93; Newbury, \$300.; Peabody, \$46,389.26.

Franklin County.—Deerfield-Sunderland, \$26,569.68; Greenfield, \$65,063.92; Montague-Gill, \$3,228.27.

Hampden County.—Holyoke, \$111,735.16; Monson, \$28,656.27.

Hampshire County.—Amherst, \$54,098.62; Huuntington, \$8,698.68; South Hadley, \$2,411.36.

Middlesex County.—Ayer, \$87,837.86; Cambridge, \$448.82; Hopkinton, \$3,000. Waltham, \$213,633.37.

Norfolk County.—Braintree, \$9,956.57; Canton-Norwood-Westwood, \$38,817.10;

Foxborough, \$11,588.69; Plainville, \$7,758.90; Quincy, \$273,018.34; Sharon, \$115,278.71; Weymouth, \$98,716.65.

Plymouth County.—Pembroke-Marshfield, \$34,816.52; West Bridgewater, \$69,512.90.

Suffolk County.—Revere, \$65.26.

Worcester County.—Ashburnham, \$3,396.39; Clinton, \$2,308.81; Gardner, \$6,101.59; Gardner-Shewsbury, \$6,023.12; Lunenburg, \$46,487.52; Millbury-Sutton, \$59.45; Westborough, \$3,154.41; Worcester, \$16,598.27.

CLASS 4 PROJECTS (Continued)

Snow Removal:

New equipment	\$17,880 00
Truck repairs	1,838 85
Truck operation	1,411 14
Truck plow repairs	3,251 34
Tractor repairs	1,839 45
Tractor operation	1,412 09
Tractor plow repairs	3,251 92
Snow fence	593 85
Expenditures under towns	93,115 11

\$124,593 75

Traffic:

Direction signs	\$3,358 97
Warning signs	2,527 40
Control signals	4,847 66
Traffic survey	606 77
Traffic permits	22 12
Surface markings	1,001 02
Regulatory signs	353 04
W.P.A.	2,921 80
Art project	187 93
Tercentenary signs	12 50
Sign survey	36 54

\$15,875 75

Roadside Planting	1,371 93
Paint	1,475 29
Engineering	77,640 61
Machinery	48,095 03
Laboratory	1,239 75
Geodetic survey	212 36
Somerset Bridge	301 36
Newburyport Bridge	190 11
New Bedford-Fairhaven Bridge	866 43
Quincy-Weymouth Bridge	170 21

\$272,032 58

CHAPTER 464—BOND ISSUE

Class 5—Development of Rivers and Harbors

The expenditures during the year 1936 were as follows:

Boston Harbor:

Commonwealth Pier No. 5	\$541,749 72
Town River, Quincy	8,000 00
Dredging	176,160 67
Weymouth Fore River	47,070 53

\$772,980 92

Outside Boston Harbor:

Menamsha Creek-Chilmark	\$29,288 21
Scituate Harbor	12,439 00
Manchester Harbor	17,614 08

Smiths Cove, Gloucester	22,968 03	
Plymouth Harbor	14,611 76	
Onset Bay, Wareham	63,268 56	
Lake Anthony, Oak Bluffs	12,700 00	
Hither Creek, Nantucket	10,926 05	
		183,815 69
Total		\$956,796 61

RECONSTRUCTION AND REPAIR OF STATE HIGHWAYS DAMAGED BY FLOODS

Chapter 186, Acts of 1936 provides as follows:—

SECTION 1. The sum herein set forth, for the purposes herein specified, is hereby appropriated from the Highway Fund, subject to the provisions of law regulating the disbursement of public funds and the approval thereof:

Item	
642a. For the reconstruction and repair of state highways damaged by floods, to be expended under the direction of the department of public works, a sum not exceeding two million dollars	\$2,000,000 00

SECTION 2. This act shall take effect upon its passage.

The worst flood conditions experienced in this State for many years occurred during the two periods from March 11, 1936, to March 15, 1936, and from March 19, 1936, to March 22, 1936. Deep snow and a thick coverage of ice on all inland waters were quickly melted by the heavy warm rains and by the abnormally high temperatures which occurred during these periods. The streams and rivers rose rapidly and overflowed their banks, causing extraordinary damage.

During these periods the maintenance personnel was on duty nearly twenty-four hours a day, patrolling the highways and bridges, making repairs and keeping the public informed of road conditions in order that food and other necessary supplies could be transported to provide for the unfortunate victims whose homes were located in the flooded areas. Twenty-four hour information service on road conditions was given to the public at the Maintenance Office, 100 Nashua Street, Boston.

Even before the flood waters had completely receded, estimates were being prepared of the cost to repair the damage which had been done to roadways and bridges.

Deposits of silt, often several feet deep, had to be removed from the roadways before traffic could proceed. In some cases, this material was pushed to the side of the road by the use of snow plows and then loaded onto trucks and hauled away. In some instances steam shovels were used to clear the roadways.

Large cakes of ice, in some cases several feet thick, were deposited on sections of the highways in the western and Connecticut Valley regions, as the flood waters receded. These were removed by steam shovels, cranes and snow plows.

Huge slides of snow and earth blocked many sections of the highways and this material was removed as quickly as possible.

Temporary repairs were made quickly and it was only a few days before all roads were open to travel, but in a few cases the travel was limited to one-way traffic where culverts and small bridges had been washed away and temporary bridges were quickly erected. Places where shoulders had been washed out and all other dangerous places were barricaded and well lighted so that the public was protected at all times.

Although the roads were opened to travel, it was evident that the flood had caused heavy damage to the roadways and bridges and it would be necessary to expend a great deal of money to make permanent repairs. In many cases it seemed advisable to construct larger culverts, additional culverts and drainage systems, raise the present grade of the road, harden shoulders, etc., in order that future flood damage and the resulting hindrance to traffic might be reduced to a great extent.

In order that the work of making these permanent repairs might be started as quickly as possible, the Legislature appropriated the sum of \$2,000,000 by Special Act, Chapter 186, Acts of 1936, on March 27, 1936. Of this amount \$153,000 was to be used for the repair of bridges which are not on State highways.

In order that flood repairs could be made as quickly as possible and funds made available by the Works Progress Administration could be utilized to supplement the State funds, Project Proposals were prepared and submitted to the Works Progress Administration on April 21, 1936.

Most of the projects submitted were approved and the construction work was started as soon as labor and materials could be secured and was continued until it was completed.

This work included the placing of rip-rap along the banks of rivers and streams, replacement of culverts and guard rail, installation of drainage, hardening of shoulders, surface repairs, grading and cutting back slopes and the removal of silt and debris from the roadsides.

EXPENDITURES FOR RECONSTRUCTION AND REPAIR OF STATE HIGHWAYS DAMAGED BY FLOODS

(Chapter 186, Acts of 1936)

The expenditures during the year in various Counties were:—

Barnstable	\$121.10	Middlesex	\$384,710.31
Berkshire	99,365.94	Norfolk	199,917.12
Bristol	73,369.91	Plymouth	9,761.26
Essex	229,554.44	Suffolk	19,071.93
Franklin	87,449.63	Worcester	194,549.31
Hampden	78,984.17	W.P.A. Projects	275,980.28
Hampshire	108,108.00		
		Total	\$1,760,943.40

Details of the foregoing expenditures follow:—

Barnstable County.—Chatham, \$44.16; Eastham, \$12.91; Falmouth, \$1.93; Harwich, \$41.40; Orleans, \$20.70.

Berkshire County.—Adams, \$4,186.99; Becket, \$3,948.53; Cheshire, \$3,961.11; Clarksburg, \$641.70; Dalton, \$42.58; Egremont, \$7,982.91; Florida, \$774.63; Gt. Barrington, \$1,888.14; Hancock, \$7,231.90; Hinsdale, \$4,117.65; Lanesborough, \$2,637.85; Lee, \$1,448.81; Lenox, \$1,615.16; North Adams, \$5,875.34; Otis, \$477.76; Pittsfield, \$559.58; Richmond, \$25.46; Sandisfield, \$1,641.18; Savoy, \$16,503.54; Sheffield, \$24,100.11; Stockbridge, \$7,027.54; West Stockbridge, \$25.46; Williamstown, \$2,186.99; Windsor, \$465.02.

Bristol County.—Attleboro, \$3.15; Dighton, \$4,880.95; Norton, \$2,331.36; North Attleboro, \$348.83; Seekonk, \$1,021.43; Somerset, \$35,447.70; Taunton, \$29,336.49.

Essex County.—Amesbury, \$3,925.01; Andover, \$509.83; Beverly, \$84.19; Danvers, \$133.13; Haverhill, \$37,587.94; Ipswich, \$62.09; Lawrence, \$362.61; Lynn, \$6.90; Lynnfield, \$9.44; Merrimac, \$85.96; Methuen, \$24,764.15; Middleton, \$36,770.19; Newbury, \$34.27; Newburyport, \$4,313.41; North Andover, \$101,853.81; Peabody, \$3.81; Rowley, \$15.50; Salem, \$1.72; Salisbury, \$18,421.89; Saugus, \$7.17; Topsfield, \$1.04; West Newbury, \$600.38.

Franklin County.—Ashfield, \$8,332.31; Bernardston, \$1,071.15; Buckland, \$3,863.28; Charlemont, \$4,417.81; Colrain, \$1,700.81; Conway, \$2,491.37; Deerfield, \$5,319.25; Erving, \$5,980.83; Gill, \$1,514.89; Greenfield, \$3,671.25; Montague, \$435.31; New Salem, \$4,191.19; Northfield, \$11,670.68; Orange, \$1,808.72; Shelburne, \$2,089.36; Shutesbury, \$22,227.87; Sunderland, \$5,817.98; Whately, \$845.57.

Hampden County.—Agawam, \$31,582.30; Blandford, \$149.77; Brimfield, \$1,927.46; Chester, \$2,605.67; Chicopee, \$5,836.75; East Longmeadow, \$93.; Holyoke, \$5,008.23; Monson, \$617.98; Palmer, \$2,889.08; Russell, \$4,406.25; Southwick, \$1,114.80; Wales, \$397.41; West Springfield, \$2,387.06; Westfield, \$17,096.77; Wilbraham, \$2,871.64.

Hampshire County.—Amherst, \$462.78; Belchertown, \$9,178.69; Cummington, \$11,120.22; Easthampton, \$542.93; Goshen, \$9,954.65; Granby, \$11,953.16; Hadley, \$27,312.86; Hatfield, \$547.73; Huntington, \$7,349.98; Northampton, \$14,933.77; Pelham, \$658.53; South Hadley, \$5,574.12; Southampton, \$266.81; Ware, \$2,501.03; Williamsburg, \$5,293.32; Worthington, \$457.42.

Middlesex County.—Acton, \$3,808.65; Ashby, \$15,111.41; Ashland, \$6,937.29; Ayer, \$118.37; Bedford, \$17,988.33; Billerica, \$26,249.98; Boxborough, \$84.45; Cambridge, \$224.91; Chelmsford, \$92,463.87; Concord, \$1,303.40; Dracut, \$69,330.69; Dunstable, \$110.38; Framingham, \$5,665.82; Groton, \$9,231.45; Holliston, \$11,292.73; Lexington, \$27,999.69; Lincoln, \$84.17; Littleton, \$643.19; Lowell, \$8,917.24; Malden, \$256.41; Marlborough, \$132.46; Natick, \$95.48; Newton, \$32.29; North Reading, \$287.97; Pepperell, \$1,204.33; Reading, \$271.; Sherborn, \$5.52; Shirley, \$4,496.55; Stoneham, \$33.42; Sudbury, \$502.26; Tewksbury, \$16,128.67; Townsend, \$3,590.87; Tyngsborough, \$16,706.43; Waltham, \$16.56; Watertown, \$16.56; Wayland, \$5,524.49; Westford, \$32,844.65; Weston, \$186.; Wilmington, \$786.60; Winchester, \$11.04; Woburn, \$4,014.73.

Norfolk County.—Avon, \$348.; Bellingham, \$645.66; Braintree, \$28,142.71; Canton, \$6,742.86; Dedham, \$4,995.34; Foxborough, \$8,379.75; Holbrook, \$21.45; Milton, \$28,891.49; Norfolk, \$226.30; Plainville, \$303.57; Quincy, \$6,838.05; Randolph, \$9,200.36; Stoughton, \$3,724.88; Walpole, \$103.21; Wellesley, \$5.52; Westwood, \$41,585.67; Weymouth, \$12,097.86; Wrentham, \$47,664.44.

Plymouth County.—Brockton, \$3,472.59; Mattapoisett, \$12.53; Pembroke, \$6.95; Rockland, \$6,269.19.

Suffolk County.—Boston, \$18,097.52; Chelsea, \$164.55; Revere, \$809.86.

Worcester County.—Ashburnham, \$959.82; Athol, \$860.08; Auburn, \$4,787.17; Barre, \$3,573.66; Berlin, \$222.99; Blackstone, \$344.96; Brookfield, \$174.69; Charlton, \$2,098.30; Dana, \$211.28; Douglas, \$398.78; Dudley, \$886.41; East Brookfield, \$364.71; Fitchburg, \$2,610.79; Gardner, \$3,033.37; Grafton, \$288.39; Hardwick, \$749.05; Harvard, \$3,039.50; Holden, \$48,217.97; Hopedale, \$10,453.15; Lancaster, \$21.39; Leicester, \$22,625.88; Leominster, \$299.94; Lunenburg, \$2,797.84; Mendon, \$244.80; Milford, \$940.08; Millbury, \$4,512.66; Millville, \$149.02; North Brookfield, \$134.54; Northborough, \$1,472.16; Northbridge, \$1,763.54; Oakham, \$111.77; Oxford, \$6,291.94; Paxton, \$5,357.94; Petersham, \$5,053.17; Phillipston, \$330.14; Princeton, \$12,629.50; Rutland, \$3,190.19; Shrewsbury, \$2,683.52; Southborough, \$1,086.42; Southbridge, \$610.86; Spencer, \$113.30; Sterling, \$2,046.22; Sturbridge, \$1,461.79; Sutton, \$11,198.75; Templeton, \$3,416.65; Upton, \$2,718.31; Uxbridge, \$871.61; Warren, \$1,834.70; Webster, \$177.17; West Boylston, \$821.04; West Brookfield, \$329.72; Westborough, \$1,388.19; Westminster, \$3,634.42; Winchendon, \$6,091.16; Worcester, \$2,863.91.

W.P.A. Projects.—HF 9-12—Huntington, \$5,769.67; HF 10 Berkshire County, \$6,743.67; HF 10-1 Adams-Cheshire, \$6,246.51; HF 10-10 Hancock, \$1,410.56; HF 10-32 Windsor, \$41.40; HF 13-B Russell-Tolland, \$220.04; HF 13-4 Chester, \$561.78; HF 8 Franklin County, \$23,421.89; HF 9 Hampshire County, \$8,573.78; HF BA Hampden County, \$22,990.66; HF 13-5 Chicopee, \$4,065.55; HF 12 Worcester County, \$58,890.22; HF 12-16 Fitchburg, \$377.07; HF 6-8 Palmer, \$528.37; HF 4 Middlesex County, \$70,987.85; HF 4-22 Lowell, \$7,648.73; HF 7 Essex County, \$48,666.; HF 7-8 Haverhill, \$5,956.21; HF 7-8B Haverhill-North Andover, \$1,336.41; HF 7-17 Newburyport, \$1,136.77; HF 7-18 North Andover, \$407.14.

MAINTENANCE AND REPAIR OF STATE HIGHWAYS

(Section 13, Chapter 81, General Laws)

The expenditures during the year in various counties were:—

Barnstable . . .	\$101,741.86	Hampshire . . .	\$63,505.46
Berkshire . . .	244,902.93	Middlesex . . .	775,938.28
Bristol . . .	\$443,705.36	Nantucket . . .	543.63
Dukes . . .	8,955.95	Norfolk . . .	786,355.05
Essex . . .	515,163.00	Plymouth . . .	141,642.79
Franklin, . . .	70,542.31	Suffolk . . .	165,436.68
Hampden . . .	107,216.05	Worcester . . .	534,123.83
Total . . .		\$3,959,773.18	

Details of the foregoing expenditures follow:—

Barnstable County.—Barnstable, \$15,994.42; Bourne, \$44,183.51; Brewster,

\$2,408.15; Chatham, \$2,267.56; Dennis, \$3,978.38; Eastham, \$1,740.24; Falmouth, \$7,389.45; Harwich, \$1,373.96; Mashpee, \$1,896.50; Orleans, \$2,349.26; Provincetown, \$2,386.06; Sandwich, \$5,355.17; Truro, \$5,226.79; Wellfleet, \$2,480.06; Yarmouth, \$2,712.35.

Berkshire County.—Adams, \$1,186.78; Becket, \$20,451.29; Cheshire, \$42,475.35; Clarksburg, \$4,746.78; Dalton, \$4,445.67; Egremont, \$6,705.28; Florida, \$25,619.61; Great Barrington, \$11,385.31; Hancock, \$2,785.10; Hinsdale, \$1,931.41; Lanesborough, \$8,742.99; Lee, \$9,262.46; Lenox, \$6,012.93; New Ashford, \$4,405.54; New Marlborough, \$487.12; North Adams, \$10,261.88; Otis, \$5,885.84; Peru, \$141.49; Pittsfield, \$6,528.72; Richmond, \$5,183.94; Sandisfield, \$9,049.72; Savoy, \$4,100.36; Sheffield, \$9,304.75; Stockbridge, \$3,347.35; Washington, \$1,634.46; West Stockbridge, \$482.18; Williamstown, \$32,112.62; Windsor, \$6,226.

Bristol County.—Acushnet, \$4,584.89; Attleborough, \$2,875.40; Berkley, \$1,060.31; Dartmouth, \$5,498.63; Dighton, \$69,648.36; Easton, \$7,306.40; Fairhaven, \$18,664.32; Fall River, \$395.58; Freetown, \$27,951.39; Mansfield, \$973.97; New Bedford, \$60.51; Norton, \$12,546.86; North Attleborough, \$3,827.03; Raynham, \$5,548.80; Rehoboth, \$25,473.62; Seekonk, \$10,204.29; Somerset, \$166,642.70; Swansea, \$20,171.76; Taunton, \$27,003.41; Westport, \$33,267.13.

Dukes County.—Chilmark, \$2,428.30; Edgartown, \$991.05; Gay Head, \$1,253.99; Oak Bluffs, \$357.96; Tisbury, \$1,119.91; West Tisbury, \$2,804.74.

Essex County.—Amesbury, \$11,118.54; Andover, \$32,002.13; Beverly, \$8,727.83; Boxford, \$19.85; Danvers, \$41,473.46; Essex, \$1,631.62; Gloucester, \$12,488.93; Groveland, \$5,019.36; Hamilton, \$29,730.57; Haverhill, \$13,104.62; Ipswich, \$44,447.49; Lawrence, \$7,261.48; Lynn, \$6,382.03; Lynnfield, \$4,860.59; Manchester, \$12.11; Marblehead, \$11.73; Merrimac, \$5,939.11; Methuen, \$48,006.12; Middleton, \$75,561.68; Newbury, \$12,792.06; Newburyport, \$11,471.; North Andover, \$42,008.15; Peabody, \$14,593.04; Rockport, \$735.42; Rowley, \$5,987.02; Salem, \$6,112.83; Salisbury, \$20,281.21; Saugus, \$19,132.71; Swampscott, \$3,176.30; Topsfield, \$7,893.49; Wenham, \$1,651.02; West Newbury, \$21,529.50.

Franklin County.—Ashfield, \$1,861.14; Bernardston, \$2,820.85; Buckland, \$2,251.16; Charlemont, \$12,932.54; Colrain, \$1,988.25; Conway, \$2,362.83; Deerfield, \$4,539.69; Erving, \$4,743.21; Gill, \$1,327.40; Greenfield, \$7,806.59; Leyden, \$8.80; Montague, \$3,660.01; New Salem, \$1,173.04; Northfield, \$4,563.20; Orange, \$1,200.49; Shelburne, \$6,833.71; Shutesbury, \$3,197.16; Sunderland, \$5,012.80; Whately, \$2,259.44.

Hampden County.—Agawam, \$5,573.86; Blandford, \$19,228.33; Brimfield, \$5,212.92; Chester, \$9,460.57; Chicopee, \$1,606.87; East Longmeadow, \$1,536.19; Granville, \$5.87; Holland, \$35.21; Holyoke, \$797.61; Monson, \$2,222.; Palmer, \$6,917.31; Russell, \$9,167.35; Southwick, \$28,739.17; Tolland, \$143.45; Wales, \$1,715.18; West Springfield, \$3,299.15; Westfield, \$5,158.07; Wilbraham, \$6,396.94.

Hampshire County.—Amherst, \$3,634.59; Belchertown, \$4,976.12; Cummington, \$5,713.75; Easthampton, \$2,014.90; Goshen, \$3,217.95; Granby, \$3,569.15; Hadley, \$2,347.36; Hatfield, \$2,287.53; Huntington, \$8,422.68; Northampton, \$4,620.51; Pelham, \$603.36; Plainfield, \$13.35; Southampton, \$3,348.78; South Hadley, \$9,526.85; Ware, \$4,425.12; Williamsburg, \$2,085.54; Worthington, \$2,697.92.

Middlesex County.—Acton, \$24,928; Arlington, \$4,339.47; Ashby, \$9,801.36; Ashland, \$30,150.75; Ayer, \$2,710.11; Bedford, \$1,978.19; Belmont, \$2,698.15; Billerica, \$19,367.69; Boxborough, \$2,280.26; Burlington, \$7,106.46; Cambridge, \$1,343.47; Chelmsford, \$40,445.96; Concord, \$13,073.67; Dracut, \$84,007.61; Framingham, \$39,635.42; Groton, \$14,412.23; Holliston, \$7,826.14; Hudson, \$916.01; Lexington, \$51,193.01; Lincoln, \$22,375.61; Littleton, \$19,954.67; Lowell, \$31,437.91; Malden, \$252.32; Marlborough, \$12,601.18; Maynard, \$216.96; Medford, \$1,856.98; Melrose, \$906.15; Natick, \$14,924.38; Newton, \$12,335.92; North Reading, \$1,370.95; Pepperell, \$5,881.46; Reading, \$8,319.06; Shirley, \$10,594.34; Somerville, \$2,290.09; Stoneham, \$8,393.90; Sudbury, \$11,476.26; Tewksbury, \$94,401.06; Townsend, \$8,780.25; Tyngsborough, \$6,688.60; Wakefield, \$7.33; Waltham, \$1,879.79; Watertown, \$3,875.81; Wayland, \$16,045.16; Westford, \$16,154.60; Weston, \$38,351.11; Wilmington, \$22,832.40; Winchester, \$3,034.13; Woburn, \$40,485.94.

Nantucket County.—Nantucket, \$543.63.

Norfolk County.—Avon, \$1,228.16; Bellingham, \$1,474.51; Braintree, \$72,334.85; Brookline, \$8,132.50; Canton, \$199,553.05; Cohasset, \$1,327.87; Dedham, \$24,402.66; Dover, \$511.54; Foxborough, \$4,008.92; Franklin, \$673.88; Holbrook, \$10,206.38; Milton, \$73,788.60; Needham, \$38,586.52; Norfolk, \$236.71; Norwood, \$24,766.01; Plainville, \$1,961.21; Quincy, \$48,157.09; Randolph, \$40,468.91; Sharon, \$29,375.69; Stoughton, \$4,428.81; Walpole, \$118,531.08; Wellesley, \$20,135.81; Westwood, \$32,982.29; Weymouth, \$15,626.26; Wrentham, \$13,455.74.

Plymouth County.—Abington, \$18,270.58; Bridgewater, \$2,422.39; Brockton, \$3,544.99; Duxbury, \$3,975.49; East Bridgewater, \$2,029.40; Hanover, \$3,116.59; Hingham, \$9,271.93; Hull, \$3,156.38; Kingston, \$2,394.33; Lakeville, \$8,425.85; Marion, \$1,939.61; Marshfield, \$1,596.93; Mattapoisett, \$4,669.37; Middleborough, \$9,448.25; Norwell, \$1,157.87; Pembroke, \$2,297.19; Plymouth, \$5,006.13; Plympton, \$22.14; Rochester, \$3,935.65; Rockland, \$2,501.66; Scituate, \$3,781.42; Wareham, \$8,563.21; West Bridgewater, \$36,686.41; Whitman, \$3,429.02.

Suffolk County.—Boston, \$51,540.56; Chelsea, \$536.34; Revere, \$113,359.78.

Worcester County.—Ashburnham, \$1,436.41; Athol, \$2,283.44; Auburn, \$9,453.56; Barre, \$5,707.27; Blackstone, \$2,444.20; Boylston, \$4.40; Brookfield, \$1,234.13; Charlton, \$8,049.52; Clinton, \$358.82; Douglas, \$3,800.62; Dudley, \$1,662.79; East Brookfield, \$1,133.14; Fitchburg, \$4,197.83; Gardner, \$1,365.49; Grafton, \$5,289.73; Hardwick, \$1,581.44; Harvard, \$27,516.94; Holden, \$17,439.99; Hopedale, \$2,548.71; Lancaster, \$2,356.82; Leicester, \$13,761.61; Leominster, \$2,646.40; Lunenburg, \$7,066.76; Mendon, \$1,040.07; Milford, \$1,949.79; Millbury, \$181,137.99; Millville, \$1,195.81; New Braintree, \$277.49; North Brookfield, \$451.12; Northborough, \$8,075.37; Northbridge, \$5,958.; Oakham, \$1,622.48; Oxford, \$415.974; Paxton, \$3,863.43; Petersham, \$4,777.32; Phillipston, \$866.64; Princeton, \$7,111.43; Royalston, \$8.80; Rutland, \$14,680.36; Shrewsbury, \$28,563.25; Southborough, \$10,647.09; Southbridge, \$607.48; Spencer, \$1,412.02; Sterling, \$18,450.88; Sturbridge, \$7,712.86; Sutton, \$5,125.41; Templeton, \$8,682.11; Upton, \$4,092.74; Uxbridge, \$39,155.59; Warren, \$3,464.80; Webster, \$1,366.23; West Boylston, \$4,413.19; West Brookfield, \$1,022.25; Westborough, \$14,052.95; Westminster, \$5,546.30; Winchendon, \$1,831.21; Worcester, \$16,705.61.

Expenditures for maintenance of highways are as follows:

Snow Removal

Truck repairs	\$21,682 75
Truck operation	15,150 44
Truck plow repairs	39,579 85
Tractor repairs	21,046 40
Tractor operation	15,123 11
Tractor plow repairs	34,799 48
Snow fence	3,245 18
New equipment	18,034 43
Expenditures under towns	754,621 47

\$923,283 11

Traffic

Direction signs	\$53,078 16
Warning signs	49,851 58
Control signals	47,029 66
Traffic survey	99,594 80
Traffic permits	633 39
Curb markings	576 43
Regulatory signs	27,570 41
W.P.A. Traffic census	8,091 78
Surface markings	22,487 14
Art project	2,216 67
Tercentenary signs	179 46
Sign survey	54,932 95

\$366,242 43

Bridges

Somerset Bridge	\$9,007 06	
Newburyport Bridge	4,498 06	
Fairhaven-New Bedford Bridge	42,569 96	
Quincy-Weymouth Bridge	13,487 40	
		<hr/>
		\$69,562 48
Geodetic Survey		4,928 52
Detour bulletins		1,277 02
Inspection of bituminous concrete pavement (Technical services)		1,843 12
Tractor repairs		11,097 72
Safety advertising		12,000 00
		<hr/>
Total Miscellaneous expenditures		\$1,390,234 40

Summary of Maintenance Expenditures

Maintenance and repair of State highways	\$3,959,773 18
Miscellaneous Expenditures	1,390,234 40
	<hr/>
Total	\$5,350,007 58

ORDINARY AND SPECIAL MAINTENANCE

The usual work of repairing road surfaces, maintaining shoulders and slopes, cleaning of drainage ditches and conduits, and miscellaneous work on the right-of-way which includes repairing fences, trimming trees, clearing roadsides, and general improvement of the appearance of State highways was performed under the ordinary maintenance allotment. The cost of this work compares favorably with that of other years.

The betterment work performed by our maintenance forces was wide in scope and will tend to reduce maintenance costs in years to come.

The major part of this work consisted of widening and resurfacing sections of the highways which were becoming rough and were not wide enough to accommodate the fast and heavy traffic. The total length widened was 21.8 miles and the length widened and resurfaced was 17.0 miles. A total of 5.7 miles were reconstructed during the past year by maintenance forces from funds available under the maintenance appropriation.

Shoulders were hardened in several sections, totalling 9.9 miles, in order to increase the safety to the travelling public and also to protect the edges of the hardened surfaces.

The ties from several abandoned street railway tracks were removed and the area graded and gravelled in order to improve the safety and appearance of the roadways. The total length of this work was 3.7 miles.

Drainage systems were corrected and improved, new guard rail was installed, shoulders were gravelled, bridges were repaired, curbings were set, slopes were cut back and general landscaping work performed.

The work done included the following: Gravel shoulders, 3.4 miles; guard rail, 2.1 miles; drainage, 1.4 miles; and set curbing, 0.6 miles.

REMOVAL OF SNOW AND ICE FROM STATE HIGHWAYS AND CERTAIN TOWN ROADS

The authority of the Department relative to the removal of snow and ice from State highways has been provided by section 19, chapter 81, General Laws, as amended.

The cooperation of the Department with officers of cities, towns and counties in keeping open and reasonably passable for vehicles during the winter months such highways as may be selected by the Department is provided for in section 11, chapter 84, General Laws, as amended.

In accordance with the provisions of these laws, the Department selected 1,947 miles of highways on the principal routes of travel, 1,751 miles of which are State highways and 196 miles town highways.

The work of snow removal on these routes is performed in a large part by the trucks and tractors owned and operated by the Department, but certain towns and

cities, by agreement with the Department, perform part of the work of snow removal on the portions of the routes within their limits. All of this work is done under the direction and supervision of the Department.

The expenditures by the Department for snow removal during the year under the provisions of both the above-mentioned laws, amounted to a total of \$1,047,876.86, which includes the cost of maintenance and repair of the equipment, actual cost of plowing and purchase of materials, such as calcium chloride and sand for use on icy conditions of the road surfaces, also the purchase of such equipment as is used entirely for snow removal work.

REPAIRING DEPARTMENT EQUIPMENT

The following contracts were entered into during the year for repairing Department equipment:—

Boston.—Aug. 18, 1936, contract made with Walsh Body & Equipment Co., of Cambridge, for repairing Department four wheel drive snow removal trucks and plows. The proposal amounted to \$92,026. Work about one-third completed. Expenditure during 1936, \$36,888.03.

Boston.—Aug. 18, 1936, contract made with William Hurley, of Cambridge, for repairing Department tractors. The proposal amounted to \$17,380. Work about two-thirds completed. Expenditure during 1936, \$11,815.52.

Boston.—Sept. 8, 1936, contract made with Walsh Body & Equipment Co., of Cambridge, for repairing Department snow plows and road machinery. The proposal amounted to \$12,555. Work almost completed. Expenditure during 1936, \$12,158.18.

BRIDGE MAINTENANCE AND OPERATION

Drawbridge over the Merrimack River between Newburyport and Salisbury

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 716, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, of operating the draw and of maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1936, was 168. In 1935 the number of such openings was 178; in 1934 the number was 110; in 1933 the number was 153; and in 1932 the number was 220.

The total expenditure during the year was \$4,498.06.

The total expenditure from 1912 to Nov. 30, 1936, inclusive, was \$204,222.21.

Drawbridge over Taunton River between Fall River and Somerset

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 717, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, and for operating the draw and maintaining the structure, shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1936, was 1,591. In 1935 the number of such openings was 1,492; in 1934 the number was 2,118; in 1933 the number was 1,602; and in 1932 the number was 1,662.

The total expenditure during the year was \$9,007.06.

The total expenditure from 1912 to Nov. 30, 1933, inclusive, was \$420,652.07.

Drawbridge over Acushnet River Between City of New Bedford and the Town of Fairhaven

This bridge which was placed in charge of the Department of Public Works and made a State highway by the provisions of Chapter 406, Acts of 1930, which also provided that the expense of keeping the bridge in good repair for travel, operating the draw and of maintaining the structure, shall be paid by the Commonwealth, was taken over by the Department on June 27, 1930.

The number of draw openings during the year in charge of the Department beginning June 27, 1930, and ending Nov. 30, 1932, was 1,069. In 1933 the number of such

openings was 1,867; in 1934 the number was 1,434; in 1935 the number was 1,318; and in 1936 the number was 1,381.

The total expenditure during the year was \$42,569.96.

The total expenditure while in charge of the Department has been \$139,430.29.

*Drawbridge over Weymouth Fore River
Between the City of Quincy and the Town of Weymouth*

The jurisdiction of the Department of Public Works over this bridge is provided for by Chapter 348, Acts of 1933. The construction of the new bridge at this location tion required the construction of a temporary bridge to accommodate the vehicular traffic which normally passed over the old bridge.

The number of draw openings at this temporary bridge from December 1, 1935, to May 23, 1936, was 1,467.

The new drawbridge was put in service May 23, 1936. From May 23, 1936 to November 30, 1936 the number of openings of the new drawbridge was 302..

The total expenditure for the maintenance and operation of both the temporary and new bridges was \$13,487.40.

MAINTENANCE OF OTHER BRIDGES ON STATE HIGHWAYS

During the past year the following work was completed or contracted for under the supervision of the Maintenance Division:—

Buckland—Scott's Bridge over the Deerfield River. Cleaning and painting of the steel superstructure.

Erving-Gill—French King Bridge over the Connecticut River. Cleaning and painting of the steel.

Huntington—Pitcher Bridge over the Westfield River. Cleaning and painting of the steel.

Millbury—Millbury St., Blackstone River and NY., NH., & H. Bridges. Cleaning and painting of the steel.

New Bedford—Replacement of the rest pier fenders and repairs to the center fender pier.

Tyngsborough—Tyngsborough Bridge over the Merrimack River. Cleaning and painting of the steel superstructure.

ROADSIDE MAINTENANCE AND DEVELOPMENT

Roadside maintenance, such as the care and planting of trees and other growth on the areas within the state highway layouts, has been a duty of this Department for forty years. The work has developed rapidly in recent years due to the growing belief that it is of value economically, in that it prevents soil erosion, besides improving the general appearance of the highways.

Specially trained men under competent supervision are employed to do this work, which not only includes the removal and trimming of trees, brush, and other undesirable growth, but also the selection and planting of new trees, shrubs and vines suitable for the various locations where such planting is desired. Trimming at curves and intersections along the highway insures safe operating conditions for motor vehicles, and the clearing of unnecessary growth and special trimming at particular points, affords attractive vistas at scenic locations.

A nursery is maintained at Sudbury where a large proportion of the trees and shrubs are grown for use on State highways under the control of the Department.

During the past year a large amount of roadside planting has been done on W.P.A. Beautification projects sponsored and supervised by the Department. There have been as many as 138 separate projects in operation at one time, with a total of more than four thousand (4,000) employees. In carrying out this work, more than 125, 000 trees and shrubs have been planted, 350,000 square yards of ground along the highways has been loamed and seeded, and about about 20 acres of sod has been placed on slopes which were left bare and unsightly after construction of the highway. There was also a large amount of trimming and pruning done to improve the general appearance of the natural growth along the roadside.

Under the W. P. A. the Department also made extensive repairs to a large slope on Route 20 in Palmer. A most objectionable condition existed there in that, after

the spring thaws, material from the hill slipped onto the roadway, sometimes to a depth of two feet making it necessary to use a tractor plow to clear the road for traffic.

In addition to W. P. A. work which was supervised by the Department, a planting project, financed by Federal Aid funds, was carried out in Framingham.

Beginning July 1, a sum of approximately \$34,000 was made available by the Federal Government under the Hayden-Cartwright Act and approximately \$37,000 under the Works Program Highway Fund, both to be used for Roadside Improvement projects.

In addition to the work carried on under the W. P. A. and the contract work with Federal appropriations, a large number of men have been employed for a period of about four months, replacing dead and damaged trees, cutting undesirable growth, mowing grass, trimming trees and shrubs, and doing other work necessary in connection with the maintenance of the roadside planting which has been done in previous years.

During the year, 247 trees and 678 shrubs were planted along the roadsides of State Highways by the Department, and 2291 trees and 3572 shrubs were donated by the Department to be planted on State sponsored W. P. A. Roadside Improvement Projects.

RELIEF OF COMMUNITIES OF STRICKEN FLOOD AREAS

Chapter 144, Acts of 1936 provided as follows:—

SECTION 1. To provide for the payment of military and other emergency expenses in safeguarding the lives and preserving the health and safety of the inhabitants in the areas of the commonwealth damaged by floods, the sum of seven hundred and fifty thousand dollars is hereby appropriated from the Highway Fund, subject to the provisions of law regulating the disbursement of such funds and the approval thereof. All activities hereunder shall be carried on under the direction of a board consisting of the adjutant general, the commissioner of public health, the commissioner of public welfare and the commissioner of public safety.

SECTION 2. The facilities and services of all department and agencies of the commonwealth shall be made available to the said board to such extent as he may require, and all expenses incurred on the call of the said board by said departments and agencies shall be paid from the appropriation made by section one. In carrying out the provisions of this act, the said board shall co-operate with all federal agencies and with all local and civic organizations engaged in relief work in the flooded area in such manner as he deems best. All activities under this act shall be so co-ordinated by the said board as to avoid duplication of work and needless expenditure of money and to expedite relief in the flooded area. (*Approved March 21, 1936.*)

Under Chapter 144, Acts of 1936, a board consisting of the Adjutant General, Commissioner of Public Health, Commissioner of Public Welfare and the Commissioner of Public Safety was authorized to use the facilities and services of all departments and agencies of the Commonwealth to relieve the communities in the stricken flood areas. The Department of Public Works was directed to send tractors to this area and plow under the silt in order to preserve the health in these communities from disease ridden dust and conserve the soil for agricultural purposes.

Seventeen tractors, operators, mechanics and timekeepers were employed in this work and a total of \$42,826.90, which included the overhauling of the tractors used on this work, was expended.

SIDEWALKS ALONG STATE HIGHWAYS

State Bond Issue and Federal W.P.A. Allotments

With funds from the Bond Issue, Chapter 464, Acts of 1935, Section 2, and an allotment from the Works Progress Administration, the Department of Public Works, during the fiscal year 1936, supervised the construction of approximately 500 miles of sidewalks, providing useful employment for thousands of men. Although the primary purpose of this Program was to provide a walk for pedestrians off the travelled way, in an effort to decrease the mounting pedestrian accident rate, many improvements have been made in the State Highway system.

More than 250 miles of curbing have been placed on these projects to serve as a

permanent addition to the highway by controlling surface water and thus preventing erosion. Curbing also serves as a guide to motorists.

Widenings to provide for sidewalks have involved the handling of over a million yards of material, done mostly by hand labor. These widenings will be of benefit also for the maintenance of the highways, particularly in providing additional width for snow removal. Also in connection with the work sight shelves have been made and outcroppings of ledge have been removed to increase sight distances.

The installation of sidewalks has increased the valuation of abutting property and opened up new developments, as in some cases new homes are being built adjacent to our projects. School children are now afforded a safe place to walk along high speed roads where previously no place existed for pedestrians except on the road surface. Motorists will also receive benefit from this type of construction as the full width of hardened surface is available to automobile traffic.

The towns in a number of instances have taken advantage of this type of construction to insure a longer serviceability by treating the gravel surface with a bituminous treatment, thus tending to make a semi-permanent type of wearing surface, and it is common knowledge that practically all of the communities are taking steps to treat these roads in some manner so as to safeguard them for the future.

The towns have expressed their appreciation to the Works Progress Administration and the Commonwealth for the cooperation given them. The Commonwealth as sponsor is pleased with the manner in which the towns assisted and it is needless to say that without the splendid cooperation of the Works Progress Administration the remarkable progress could never have been attained.

FARM TO MARKET PROJECTS

The Department early in the fall of 1935 submitted proposals to the Works Progress Administration of Massachusetts for the improvement of the so-called "Farm to Market" roads.

These proposals required contributions from the W.P.A., the Community and the State. The W.P.A. contribution, in the main, consisted of supplying labor and a portion of the equipment and material. The Community contribution consisted in supplying part of the equipment, also a large part of the material and where possible a competent foreman or supervisor, the Commonwealth supplying the engineering, actual supervision, and other miscellaneous expenses, such as office rent and state-owned cars.

Approval of such proposals was received from Washington, involving an allotment of \$20,000,000 from the W.P.A., a contribution from the Communities of approximately \$884,600, and approximately \$110,000 from the Commonwealth.

These proposals contemplated work on about 2000 miles of roads. To date there has been actually completed 718 miles. Work on 443 miles is in various stages of completion ranging from 20% to 80%.

Of utmost importance was the thought that certain outlying settlements had no road for vehicular communication, which not only was a trade handicap but also a real danger in case of fire, and the transportation of school children was at times almost impossible, due to the condition of the roads at certain periods of the year.

There has been expended over the past twelve months by the combined agencies, approximately \$4,350,000. Of this amount 67.5% was paid direct to labor, the remaining 32.5% covered equipment and material.

There has been an average of 5500 men employed for an earning period of ten months.

The character of the work done is so diversified that it is not possible in a few words to give a comprehensive picture of the actual value.

A great many roads were impractical for travel, as in the spring they were full of mud-holes and were hardly passable a greater part of the year. Sufficient drainage was installed, proper depth of excavation was attained and finally a fill varying in depth of good clean gravel was made.

Narrow winding roads were improved by easing curves and noticeable widening was accomplished in many places.

Similarly roads with poor visibility were improved.

WIDENING AND RESURFACING PROJECTS

On Aug. 30, 1936, Project Proposals totalling \$10,512,870.63 for the widening and resurfacing State highways were submitted to the Works Progress Administration. This work was submitted on a basis of 100% Federal Contribution and the only State expenditures involved were for engineering and supervision.

These projects were approved but work was delayed in starting due to the fact that insufficient labor was available under the quota fixed by the Works Progress Administration because of projects already operating. As soon as projects which were operating were completed and labor became available, these new projects were started.

TESTING LABORATORY

The Testing Laboratory was established in 1921 by the Department of Public Works for testing materials to meet the requirements of the Bureau of Public Roads in furnishing Federal aid for road construction.

At the present time very complete facilities are available to examine and evaluate all materials entering into the construction activities of the Department.

The Department aims to keep abreast of recent and modern development in order to insure good and durable construction and sound economical expenditure. The construction program of the Department calls for annual expenditures amounting to millions of dollars, which places heavy responsibility upon the laboratory for testing materials used.

Research for determining the behavior of various materials under the climatic conditions in this State is carried on. Equipment is in use for subjecting paints to accelerated weathering tests similar to the local conditions, and these tests are later supplemented by observations of materials actually exposed to weathering as occurs in practice.

Tests are made to determine the chemical and physical properties of materials used in cement concrete construction, and of bituminous materials, with a view to determine their characteristics, and for the selection of the superior types of mixture for use on highway work.

The scientific control of field operations under the direction of the laboratory organization is an essential part of the laboratory work. More than 4000 tests per year are made regularly.

TRAFFIC

Traffic Signs, Lights, Markings, Signal Systems and Regulations.

Under the provisions of chapters 85 and 89, General Laws, as amended, certain duties are placed upon the Department in order to secure uniformity in highway traffic signs, signals, markings, devices and regulations.

The Department is required to erect on all numbered routes such signs, etc., as it may deem necessary for promoting the public safety and convenience.

Traffic Signs, Signals, etc., erected by Department

Accordingly, the Department has, during the past year, erected those signs, etc.,

Traffic signals	11
Traffic beacons	130
Traffic signs	17,653
Traffic markings (in miles)	687

The erection or designation of the foregoing was based upon accident analyses, traffic counts and speed checks. It is only through a close study of these that the need for warning or control can be accurately gauged.

Directional Signs and Route Markers erected by Department

Still other signs have been erected under the provisions of the first-named chapter. These are known as directional signs. Posted at or within intersections, these serve to direct the motorist to adjacent, contiguous and even remote towns.

Travel has been further facilitated by the opening of new routes and the marking of these with button signs which notify the motorist upon which route he is traveling.

The fabricating and painting of these signs are done at the Department's traffic shop.

Traffic Control Signals, Signs and Regulations Approved by Department

The provisions of the several chapters already referred to also make the validity of regulations made, or signs, etc., erected by cities and towns upon ways within their control, dependent upon the written approval of the Department of Public Works.

As a means of aiding the municipalities in this respect, the Department assigns its engineers to make studies, and to give advice to those cities and towns which desire to control vehicular traffic through the medium of regulations and signs.

This resulted during the past year in the Department's approving the following traffic control features:

Traffic signals	23
Traffic beacons	8
Traffic signs and markings	74
Traffic rules and regulations	98
Isolated stop signs	50
Safety zones	3

FEDERAL AID IN CONSTRUCTING HIGHWAYS

Statements as to the Acts of Congress and of the Massachusetts Legislature in respect to cooperation between the United States and the State of Massachusetts in the construction and maintenance of highways, including the Federal Highway Act, approved November 9, 1921, may be found in the annual report of the Department of Public Works for the years 1920 to 1927 inclusive.

A detail statement of Federal Aid Allotments and projects for Massachusetts appears in the Department Report for the fiscal year 1933. Additions and alterations for the fiscal years 1934, 1935, and 1936 and a summary of the allotments appear as follows:

Regular Federal Aid from June 30, 1916 to June 30, 1933	\$18,523,440
1931 Federal Emergency Advance Funds	1,141,460
Federal Emergency Relief and Construction Act of 1932	1,716,612
1934 National Recovery Funds (Appropriated under National Industrial Recovery Act, approved June 16, 1933)	6,597,100
1935 National Recovery Funds (Appropriated under The Hayden-Cartwright Act approved June 18, 1934)	3,350,474
1936 Regular Federal Aid Funds (Authorized under The Hayden-Cartwright Act approved June 18, 1934)	1,741,877
1937 Regular Federal Aid Funds (Authorized under The Hayden-Cartwright Act approved June 18, 1934)	1,743,487
Works Program—Highways	3,262,885
Works Program—Grade Crossings	4,210,833
(Appropriated under the Emergency Relief Appropriation Act of 1935)	
	<hr/>
	\$42,288,168
1938 Regular Federal Aid Funds (Authorized under the Hayden-Cartwright Act approved June 16, 1936) as follows:	
Regular Federal Aid	\$1,769,936
Secondary or Feeder Roads	353,987
Grade Crossings	1,047,500
	<hr/>
	3,171,423
Total Federal Funds of All Types Authorized	<hr/>
	\$45,459,591

There were fifty-five (55) projects prepared in addition to those shown on the Annual Report of the Department of Public Works for 1935. The length of Federal Aid Road and Bridge Projects in this state from the commencement of work of this type to November 30, 1936 inclusive is 1,127.371 miles, an increase of 50.594 miles over 1935.

In addition to these highway and bridge projects there were three (3) roadside improvement projects prepared totaling about 3.5 miles, which were all on old Federal Aid projects.

The total length of Federal Aid Projects (1,127.371 miles) divided according to the various counties is as follows:—

Barnstable	108.387	Hampshire	54.508
Berkshire	135.904	Middlesex	109.153
Bristol	92.132	Norfolk	92.684
Dukes	3.117	Plymouth	114.464
Essex	97.707	Suffolk	5.839
Franklin	55.530	Worcester	186.012
Hampden	71.934		
		Total	1,127.371

1934 National Recovery Funds

Allotted as follows:

NRH 56	Stoughton	\$117,194.77
NRH 57 (2)	Winchester	12,746.42
NRM 57 (1)	Woburn	14,140.19
NRH 57 (B)	Winchester	18,170.72
NRH 78	Burlington	22,671.06
NRH 89-A	Easton	38,908.87
NRH 89-C	Easton	40,017.36
NRM 126-A	Newburyport	547,399.77
NRM 130-B	Auburn	103,571.29
NRM 131-C	Springfield	207,487.36
NRH 138-B	Chester	46,792.64
NRH 143-B	Fairhaven	64,430.41
NRM 170-C	Quincy-Weymouth	1,976,400.49
NRH 172-B	Sterling-W. Boylston	124,037.32
NRH 173-C	Lanesborough	9,983.98
NRM 173-D	Pittsfield	30,896.49
NRH 174-B	Scituate-Marshfield	146,402.02
NRH 184-A	Charlton	34,775.70
NRH 184-C	Charlton-Oxford	34,347.72
NRH 188-F	Ashby-Townsend	117,531.69
NRH 189-E	Mattapoisett	80,642.31
NRH 189-F	Wareham	32,224.03
NRH 194-B	Templeton	41,226.36
NRH 199-C	Newbury	46,975.44
NRM 235-B	Brookline-Newton	210,478.94
NRH 240-B	West Boylston	7,263.08
NRM 241-A	East Boston-Revere	698,939.51
NRM 241-B	Revere	248,063.57
NRM 242-A	Arlington-Belmont-Cambridge	617,355.22
NRH 243-A	Amesbury	21,836.51
NRM 244-A	Boston (Hyde Park)	37,926.57
NRS 245-A	Huntington	141,633.69
NRS 246	Conway-Deerfield	234,689.75
NRS 247	Otis	106,186.86
NRM 248-A	North Adams	176,360.52
NRM 249	Worcester	104,345.23

Total for Roadway and Bridge Projects . . \$6,514,053.86 carried forward

1934 National Recovery Funds (continued)

Total for Roadway and Bridge Portions
(brought forward) \$6,514,053.86

Landscape Projects Financed

from these Funds (See 1935 Report)

Amount Allotted . . . \$39,752.76

Amount Reverted . . . 1,073.14

38,679.62

Total Amount Funds Allotted . . . \$6,552,733.48

Allotment	\$6,597,100.00
Total Amount Actually Allotted (from above)	6,552,733.48
Agreement Pending	\$44,366.52

The above projects are all completed and final payment received except NRM 170-C Quincy-Weymouth and NRM 249 Worcester which are completed but final payment not received.

The following projects also include traffic signals:

NRM 126-A	Newburyport
NRM 130-B	Auburn
NRH 172-B	Sterling-West Boylston
NRM 241-B	Revere
NRM 242-A	Arlington-Belmont-Cambridge

The following projects also include traffic signals: NRM 126-A Newburyport; NRM 130-B Auburn; NRH 172-B Sterling-West Boylston; NRM 241-B Revere; NRM 242-A Arlington-Belmont-Cambridge.

1935 National Recovery Funds \$3,350,474.00

Allotted as follows:

¹ NRM	21-C	Pittsfield	\$30,035.83
¹ NRM	91	Lowell	59,022.86
² NRM	69-B	Haverhill	42,203.56
² NRH	73	Southwick	133,561.79
¹ NRH	125-C	Bourne-Wareham	150,531.21
² NRH	98	Sheffield (Landscape)	330.72
² NRH	114	Lenox (Landscape)	7,056.32
² NRH	134-E	Rutland	19,155.95
² NRH	137-C	Sheffield (Landscape)	2,110.40
² NRH	147-A	Lenox (Landscape)	673.44
² NRM	155-C	Westfield	54,312.55
² NRH	173-E	Cheshire	149,590.82
² NRH	176-B	Bourne	77,811.54
² NRH	211-A	Northborough (Landscape)	11,317.53
¹ NRH	211-B	Framingham (Landscape)	1,800.00
² NRH	211-C	Natick (Landscape)	5,483.00
² NRH	211-F	Framingham (Landscape)	2,678.64
² NRS	247-B	Otis-Blandford	67,036.95
¹ NRH	250	Dracut-Methuen	285,253.51
¹ NRS	254	Athol-Orange	156,859.56
¹ NRH	256-A	Millbury	404,307.62
¹ NRS	257	Montague	313,669.92
NRM	235-E	Boston-Brookline	390,380.10
¹ NRH	251-A	Dedham-(Boston)	229,244.84
¹ NRM	251-B	Boston-(Dedham)	128,471.89
¹ NRS	253	Billerica-Chelmsford	107,176.54
² NRS	252	Blandford	53,368.79
¹ NRS	255	Andover	189,449.37

3,072,877.25

Agreement Pending \$277,596.75

¹ These projects completed—final payment not received.

² These projects completed—final payment received.

The following projects also include sidewalks: NRM 91 Lowell; NRH 250 Dracut-Methuen; NRH 251-A Dedham; NRM 251-B Boston; NRS 255 Andover.

The following projects also include traffic signals: NRH 256-A Millbury; NRH 251-A Dedham; NRM 251-B Boston.

Emergency Relief Appropriation Act of 1935

Works Program—Highways \$3,262,885.00

Apportioned as follows:

¹ WPH	222-B	Greenfield	\$67,272.64
WPH	272-A	Lynnfield	271,940.00
WPMH	272-B	Peabody	717,080.00
WPSO	278-A	Mansfield	4,710.00
WPMH	284-A	Holyoke	163,530.00
WPSO	285-B	Mansfield	3,710.00
WPSO	290	Attleboro-North Attleborough- Plainville	252,640.00
WPSO	291	Clinton	86,170.00
WPSO	292	Marshfield-Pembroke	312,580.00
WPMH	293-A	Worcester	27,520.00
WPSO	304	West Bridgewater	85,860.00
¹ WPMS	267	Lynn	50,481.25
WPH-R	308-A	Deerfield-Sunderland	352,360.00
			<hr/> 2,395,853.89

Agreement Pending \$867,031.11

¹ These projects completed—final payment not received. All others under construction.

Emergency Relief Appropriation Act of 1935

Works Program—Grade Crossings \$4,210,833.00

Apportioned as follows:

WPGH	75-A	Newbury	\$14,814.69
WPGH	75-B	Newbury-Newburyport	297,156.46
¹ WPGH	121-C	Weymouth	107,379.69
WPGH	137-D	Sheffield	111,494.62
WPGH	164-C	Ashburnham	116,380.00
WPGM	260	Quincy	329,367.72
WPGS	262	Sharon	151,133.23
WPGS	263	Ayer	117,333.04
WPGS	269	Canton-Norwood- Westwood	106,800.00
WPGS	270	Foxborough	131,360.00
¹ WPGS	271	Foxborough-Mansfield	22,791.76
WPGS	276	Lunenburg	78,851.19
WPGS	277	Sharon	65,060.00
WPGS	278-B	Mansfield	91,930.00
WPGS	279	Monson	119,230.00
WPGS	285-A	Mansfield	90,050.00
WPGS	289	Hopkinton-Westborough	91,990.00
WPGM	293-B	Worcester	348,260.00
WPGM	208-C	Waltham	207,519.98
¹ WPGM	280-A	Amherst	73,600.00
¹ WPGS	287	Braintree	10,069.29
¹ WPGM	275	Lawrence	80,223.13
			<hr/> 2,762,794.80

Agreement Pending \$1,448,038.20

¹ These projects completed—final payment not received. All others under construction.

1936 Hayden-Cartwright Projects \$1,741,877.00

Apportioned as follows:

3	Saugus	\$124,865.00
9	Saugus	579,675.00
17	Lynnfield	146,300.00
256-B	Millbury-Sutton	268,900.00

259	Pittsfield	\$136,485.00	
¹ 258	Bourne	166,967.55	
			\$1,423,192.55
	Agreement Pending		\$318,684.45

¹ This project completed—final payment not received. All others under construction.

1937	Hayden-Cartwright Projects		\$1,743,487.00
	Apportioned as follows:		
	36-A Eastham-(Orleans)	\$103,155.00	
	106-A Bourne	48,475.00	
	127-A Holyoke	269,500.00	
	175-B Orleans-(Eastham)	25,895.00	
	261 Malden-Revere-Saugus	456,780.00	
			903,805.00
	Agreement Pending		\$839,682.00

These projects are all under construction.

BRIDGES

During the year the Department has prepared designs and plans for, and done other work relating to, bridges throughout the Commonwealth. The various cities and towns, the localities therein, the character of the structure and other details are as follows:

BRIDGES AND STRUCTURES BUILT OR CONTRACTED FOR *Cities and Towns, Locality and Character of Structure*

Adams—East Street over Tophet Brook; one 42-foot span, steel stringers with concrete floor.

Amherst—Tracks of Central Vermont Railway over College Street; one 55-foot span, through plate girder.

Ashburnham—At Astor House Crossing over tracks of Boston and Maine Railroad; multiple span concrete beams varying from 35 feet to 42 feet and one 42-foot steel stringer span with concrete floor; total length 272 feet.

Ayer—West Main Street over tracks of Boston and Maine Railroad: Eight spans of concrete beams varying from 30 feet to 36 feet and one 108-foot steel pony truss span with concrete floor; total length 337 feet.

Barnstable—Millway Road over Huckins Creek; one 20-foot span concrete slab.

Bourne—North County Road over Herring River; an 8-foot x 6-foot concrete box culvert.

Brookfield—Fiskdale Road over Quaboag River; two 39-foot spans, steel stringers with concrete floor.

Buckland—Scott Road over Clesson Brook; one 45-foot span, steel stringer bridge with concrete floor.

Canton—At Norwood and Westwood lines over Neponset River; seven 16-foot spans, creosoted timber pile trestle with concrete floor; total length 110 feet.

Canton—Dedham Road over tracks of New York, New Haven and Hartford Railroad; two 38-foot spans and one 71-foot span, steel stringers with concrete floor; total length 152 feet.

Clinton—Lancaster Mills Bridge over Nashua River; one 90-foot span and one 94-foot span, steel deck plate girders with concrete floor; total length 185 feet.

Deerfield—At Sunderland line, temporary bridge over Connecticut River; steel stringers with wood floor on steel pile trestle.

Deerfield—At Sunderland line over Connecticut River; six spans varying from 148 feet and 6 inches to 153 feet, steel deck trusses with concrete floor; total length 1050 feet.

East Brookfield—Podunk Road over Seven Mile River; two 32-foot-six-inch spans, one 44-foot span and one 50-foot span, steel stringers with concrete floor.

Foxborough—Tracks of New York, New Haven and Hartford Railroad over Cocasset Street; one 50-foot-six-inch span, deck plate girder.

Grafton—Shrewsbury Street over tracks of the Boston and Albany Railroad; one 36-foot concrete beam span, one 41-foot concrete beam span, one 70-foot steel stringer span; total length 147 feet; concrete floor.

Grafton—Shrewsbury Street, pedestrian passage under tracks of Boston and Albany Railroad; concrete box 8 feet wide and 7 feet-six inches high.

Greenfield—At Montague line, temporary bridge; six 74-foot spans, steel stringers with wood floor; total length 450 feet.

Hanson—State Street over Indian Head River; one 52-foot span, steel stringer with concrete floor.

Hopkinton—At Westborough line, Rocklawn Crossing over Sudbury River and tracks of the Boston and Albany Railroad; one 34-foot span and two 39-foot-six-inch spans, concrete beams; one 71-foot span, steel beams; concrete floor; total length 184 feet.

Lawrence—Tracks of Boston and Maine Railroad over Andover Street; one 130-foot-four-inch span, steel through plate girder.

Lunenburg—Leominster Road over tracks of Boston and Maine Railroad; two 35-foot-six-inch spans and one 39-foot span, steel stringers with concrete floor; total length 144 feet.

Lynnfield—Newburyport Turnpike over Circumferential Highway; one 44-foot span, concrete beams, and two 46-foot spans, steel stringers, with concrete floors; total length 140 feet.

Malden—At Revere line, Squire Road Extension over Lynn Street; one 63-foot span, steel stringers with concrete floor.

Mansfield—School Street over tracks of New York, New Haven and Hartford Railroad; one 125-foot span, steel through plate girder, with concrete floor.

Mansfield—Elm Street over tracks of New York, New Haven and Hartford Railroad; two 35-foot spans and one 60-foot span, steel stringers with concrete floor.

Marshfield—Plain and Ocean Streets over South River; one 15-foot span concrete slab.

Marshfield—Plain and Ocean Streets over Waste Water Stream; one 18-foot span concrete slab.

Middleton—At Peabody Line, Boston Street over Ipswich River; one 39-foot span, steel stringer with concrete floor.

Millbury—Worcester Road over West Main Street; two 31-foot-six-inch spans, concrete beams, and one 60-foot span steel stringers, with concrete floor; total length 156 feet.

Millbury—Worcester Road over Singletary Brook; one 20-foot span concrete arch.

Monson—Palmer Road over Chicopee Brook and over tracks of Central Vermont Railway; two 58-foot spans and two 101-foot spans, steel through plate girders, concrete floor; total length 323 feet.

New Marlborough—Great Barrington Road over Konkapot Brook; one 38-foot span, steel stringers with concrete floor.

Peabody—Northern Circumferential Highway over Lowell Street; one 41-foot span concrete beams, and one 59-foot span, steel stringers, with concrete floor.

Pembroke—Schoosett Street over Robinson Creek; one 16-foot span concrete slab

Pittsfield—Dalton Road over tracks of Boston and Albany Railroad; one 57-foot span, steel stringers with concrete floor.

Quincy—At Weymouth line, Fore River Bridge over Weymouth Fore River; removal of temporary bridge.

Quincy—At Weymouth line, Fore River Bridge over Weymouth Fore River; lights for bridge.

Quincy—At Weymouth line, Fore River Bridge over Weymouth Fore River; relocation of buildings and other work on approaches incidental to construction of bridge.

Quincy—Water Street over tracks of New York, New Haven and Hartford Railroad; one 26-foot span and one 35-foot span, steel stringers, and one 74-foot span, steel through plate girder, concrete floor.

Quincy—Tracks of New York, New Haven and Hartford Railroad over Town Brook; one 10-foot by 5-foot concrete box culvert.

Revere—Squire Road Extension over tracks of Boston and Maine Railroad; two 30-foot spans and one 36-foot-six-inch span, concrete beams, and one 36-foot-six-inch span, steel stringers; concrete floor; total length 134 feet.

Saugus—Main Street over Newburyport Turnpike; two 45-foot spans, steel stringers with concrete floor.

Saugus—Walnut Street over Newburyport Turnpike; one 37-foot span, concrete beams, and two 51-foot spans, steel stringers, concrete floor.

Saugus—Essex Street over Newburyport Turnpike; two 65-foot spans, steel stringers with concrete floor.

Sharon—South Main Street over tracks of New York, New Haven and Hartford Railroad; one 76-foot span steel through plate girder with concrete floor.

Sharon—Depot Street over tracks of New York, New Haven and Hartford Railroad; two 46-foot spans, concrete beams, and one 60-foot span, steel stringers, concrete floor.

Sheffield—Canaan Road over tracks of New York, New Haven and Hartford Railroad; three 51-foot spans, steel stringers with concrete floor.

Taunton—Tremont Street over Three Mile River; one 48-foot span, steel stringers with concrete floor.

Worcester—Barbers Crossing over tracks of Boston and Maine Railroad; one 120-foot-ten-inch span, steel through plate girders with concrete floor; two bridges, side by side.

Worcester—New Street over Neponset Street; one 51-foot-six-inch span, steel stringers with concrete floor.

Worcester—Pedestrian passage under tracks of Boston and Maine Railroad; concrete box 8 feet wide and 7-feet-six-inches high.

ALTERATIONS, REPAIRS AND EXTENSIONS TO BRIDGES AND STRUCTURES MADE OR CONTRACTED FOR

Buckland—At Charlemont line, Scotts Bridge over Deerfield River; repairing bridge seats.

Dartmouth—At Westport Factory; construction of new dam and extension of raceway and intake of dam.

Dudley—At Webster line, Pleasant Street over French River; repairs to steel plate girder.

Hadley—At Northampton line, over Connecticut River; repairs to bridge.

Holyoke—At South Hadley line, over Connecticut River; repairs to bridge.

Holyoke—Northampton Road; one 13-foot-six-inch span extension to existing bridge.

Lowell—Aiken Street Bridge over Merrimack River; construction of new wing wall.

Marshfield—Over Green Harbor River; 19-foot-four-inch concrete slab extension to existing bridge.

Newbury—Parker River Bridge; repairs to piers and abutments.

Northfield—Schell Bridge over Connecticut River; repairs to bridge.

Northfield—Bennetts Meadow bridge over Connecticut River; repairs to bridge.

Saugus—Newburyport Turnpike over Saugus River; widening of existing concrete bridge, 22-foot span concrete slab.

West Bridgewater—West Center Street over West Meadow Brook; widening of existing bridge, 15-foot concrete arch.

Westport—Westport Point Bridge over Westport River; repairs to timber trestle and draw.

CONTEMPLATED BRIDGES AND STRUCTURES

Plans, Studies or Estimates Made

Cities and Towns, Locality and Character of Structure

Adams—Center Street over Hoosic River; new bridge.

Adams—Lime Street over Hoosic River; replacement of bridge destroyed by flood.

Alford—New Road over Green River; new bridge.

Ashfield—Spruce Corner over Swift River; replacement of bridge destroyed by flood.

Ashland—Main and Cherry Streets over tracks of Boston and Albany Railroad; grade crossing elimination.

Ashland—Pedestrian passageway under tracks of Boston and Albany Railroad.

Athol—Crescent Street over Millers Rivers; replacement of bridge destroyed by flood.

Athol—At Orange line, Pinedale Avenue over Lawrence Brook; replacement of bridge destroyed by flood.

Athol—At Orange line, Fryeville Bridge over Tully River; replacement of bridge destroyed by flood.

Attleboro—Washington Street over tracks of New York, New Haven and Hartford Railroad; new bridge.

Barre—South Barre Road over Ware River; replacement of bridge destroyed by flood.

Barre—Powder Mill Bridge over Ware River; replacement of bridge destroyed by flood.

Belchertown—At Palmer line, Depot Street over Swift River; replacement of bridge destroyed by flood.

Belchertown—Granby Road over tracks of Boston and Maine Railroad; new bridge.

Berlin—Marlborough Road over Assabet River; replacement of bridge destroyed by flood.

Beverly—Paradise Crossing over tracks of Boston and Maine Railroad; grade crossing elimination.

Blandford—Russell Road over Freeland Brook; new bridge.

Bolton—Seven Bridge Road over Still River; replacement of bridge destroyed by flood.

Boston—At Cambridge line, Prison Point Bridge over tracks of Boston and Maine Railroad; proposed traffic circle.

Boston—At Milton line over Neponset River; bridge at new location.

Boston—At Milton line, Pauls Bridge over Neponset River; new bridge.

Boston—Porter Street over tracks of Boston and Albany Railroad; bridge on proposed Tunnel Road.

Boston—Prescott Street over proposed Tunnel Road; new bridge.

Boston—Bennington and Neptune Streets over proposed Tunnel Road; new bridge.

Boston—Saratoga Street over proposed Tunnel Road; new bridge.

Boston—Jamaicaway over Huntington Avenue; relieving platform on approach to bridge.

Boston—East Milton Street and proposed highway near Pauls Bridge; grade separation.

Braintree—Tracks of New York, New Haven and Hartford Railroad over Union Street; grade crossing elimination.

Brimfield—Sturbridge Road over Mill Brook; new bridge.

Brookline—Brookline Village; separation of highways.

Brookline—Cypress Street at Worcester Turnpike; grade separation.

Cambridge—Cottage Farm Bridge; alteration at approach.

Charlemont—At Shelburne line, Four Mile Square Road over North River; replacement of bridge destroyed by flood.

Cheshire—Auto Route 8 and tracks of Boston and Albany Railroad; grade crossing elimination.

Chesterfield—First Bridge over Stevens Brook; new bridge.

Chesterfield—Second Bridge over Stevens Brook; new bridge.

Chicopee—Plainfield Street; elimination of grade crossing.

Colrain—Adamsville Road over North River; replacement of bridge destroyed by flood.

Colrain—Frank Herzig Bridge over West Branch of North River; replacement of bridges destroyed by flood.

Colrain—Robert Hillman Bridge over West Branch of North River; replacement of bridge destroyed by flood.

Danvers—Tracks of Boston and Maine Railroad over Salem Turnpike; grade crossing elimination.

Danvers—Andover Street over Newburyport Turnpike; grade crossing elimination.

Dudley—At Webster line, Perryville Road over French River; replacement of bridge destroyed by flood.

Dudley—Brandon Road over French River; replacement of bridge destroyed by flood.

Edgartown—Katama Road over Mattakesett Brook; new bridge.

Erring—At Montague line, Paper Mill Bridge over Millers River; replacement of bridge destroyed by flood.

Fall River—At Somerset line, Slades Ferry Bridge over Taunton River; repairs or new bridge.

Falmouth—Nashawena Street over Nashawena Creek; new bridge.

Falmouth—Silver Beach Road over Herring River; new bridge.

Falmouth—Silver Beach Road over tracks of New York, New Haven and Hartford Railroad; new bridge.

Fitchburg—Circle Street over Nashua River; replacement of bridge destroyed by flood.

Fitchburg—Westminster Cut-off over Woodbury Mill Pond; new bridge.

Fitchburg—Lunenburg Street over Baker Brook overflow; replacement of bridge destroyed by flood.

Fitchburg—Westminster Cut-off over Monoosnoc Brook; two new bridges.

Florida—At Savoy line, Mohawk Trail over Cold River; new bridge.

Gardner—At Templeton line, Shoddy Mill Road over Otter River; replacement of bridge destroyed by flood.

Gardner—Mechanic Street over tracks of Boston and Maine Railroad; grade crossing elimination.

Gardner—Mechanic Street; pedestrian bridge over tracks of Boston and Maine Railroad.

Gill—At Montague line, Turners Falls over Connecticut River; new bridge.

Gloucester—Tracks of Boston and Maine Railroad over Essex Avenue; grade crossing elimination.

Grafton—Depot Street over Blackstone Canal; replacement of bridge destroyed by flood.

Hadley—Scotts Bridge over Mill River; replacement of bridge destroyed by flood.

Hadley—At Northampton line over Connecticut River; new bridge.

Hamilton—At Ipswich line, Highland Street over Ipswich River; new bridge.

Hanson—Main Street over Poor Meadow Brook; widening existing bridge.

Hatfield—Bridge Street over Mill River; replacement of bridge destroyed by flood.

Hatfield—West Street over Mill River; widening existing bridge.

Haverhill—River Street over Bradley Brook; widening of existing bridge.

Haverhill—At Methuen line, Bradley Avenue over Hawkes Brook; widening of existing arch.

Holden—River Street over Quinapoxet River; replacement of bridge destroyed by flood.

Holliston—Washington Street over tracks of Boston and Albany Railroad; grade crossing elimination.

Huntington—Main Street over Westfield River and tracks of Boston and Albany Railroad; grade crossing elimination.

Ipswich—Linebrook Road and Newburyport Turnpike; grade separation.

Lancaster—Center Bridge Road over Nashua River; replacement of bridge destroyed by flood.

Laurence—Den Rock Road over Shawsheen River; new bridge.

Lee—Auto Route 20 over Housatonic River; repairs to bridge.

Leominster—Mechanic Street over Nashua River; replacement of bridge destroyed by flood.

Leominster—Tracks of New York, New Haven and Hartford Railroad over Westminster cut-off; grade crossing separation.

Leominster—North Main Street over Westminster cut-off; grade separation.

Lincoln—South Great Road over tracks of Boston and Maine Railroad; grade crossing elimination.

Lowell—Central Bridge over Merrimack River; new bridge.

Lowell—Moody Street over Merrimack River; replacement of bridge destroyed by flood.

Ludlow—At Wilbraham line, Red Bridge over Chicopee River; replacement of bridge destroyed by flood.

Lunenburg—Townsend Harbor Road over Mulpus Brook; replacement of bridge destroyed by flood.

Manchester—Proposed road over Manchester Harbor.

Mansfield—Proposed pedestrian passageway over tracks of New York, New Haven and Hartford Railroad.

Medfield—At Millis line, Dwight Street over Charles River; new bridge.

Milford—Medway Street over Boston and Albany Railroad; grade crossing elimination.

Milton—Proposed road over tracks of New York, New Haven and Hartford Railroad.

Monroe—Valley Road over Dunbar Brook; widening of existing bridge.

Newton—At Weston line, Northern Circumferential Highway over Charles River; new bridge.

Newton—At Wellesley line, over Charles River; new bridge.

North Adams—Williamstown Road over a brook; widening existing stone arch.

North Andover—Boxford Road over Mosquito Brook; new bridge.

Northbridge—Mendon Road over West River; new bridge.

Northfield—Burnham Road over Mill Brook; replacement of bridge destroyed by flood.

Northfield—Mt. Hermon Road over Nelson Pond; replacement of bridge destroyed by flood.

Orange—South Main Street over Millers River; replacement of bridge destroyed by flood.

Orange—Holtshire Street over Millers River; replacement of bridge destroyed by flood.

Orange—Warwick Road over Orcutt Brook; replacement of bridge destroyed by flood.

Oxford—Dudley Road over French River; replacement of bridge destroyed by flood.

Palmer—Main Street over Ware River; replacement of bridge destroyed by flood.

Palmer—Church Street over Ware River; replacement of bridge destroyed by flood.

Peabody—Lowell Street over Newburyport Turnpike; grade separation.

Peabody—Andover Street over Circumferential Highway; grade separation.

Pepperell—Main Street over Nashua River; replacement of bridge destroyed by flood.

Pepperell—Mill Street over Nissitisset River; replacement of bridge destroyed by flood.

Petersham—Choates Pond Bridge over Swift River; replacement of bridge destroyed by flood.

Pittsfield—South Street over tracks of New York, New Haven and Hartford Railroad; grade crossing elimination.

Pittsfield—South Street over Housatonic River; new bridge.

Princeton—At Sterling line, Pottery Mill Bridge over Keyes Brook; replacement of bridge destroyed by flood.

Princeton—Ropers Mill Bridge over Ware River; replacement of bridge destroyed by flood.

Randolph—North Street over tracks of New York, New Haven and Hartford Railroad; new bridge.

Rowley—Haverhill Street over Newburyport Turnpike; grade separation.

Royalston—King Street over Nashua River; replacement of bridge destroyed by flood.

Royalston—South Royalston Road over Millers River; replacement of bridge destroyed by flood.

Salisbury—Elm Street over tracks of Boston and Maine Railroad; new bridge.

Sharon—Garden Street over tracks of New York, New Haven and Hartford Railroad; Proposed pedestrian bridge.

Shrewsbury—Southwest Connection over Flint Pond; new bridge.

Shrewsbury—Southwest Connection over Lake Quinsigamond; new bridge.

Shrewsbury—Southwest Connection over Grafton Street; grade separation.

Southwick—College highway over Uncle Olivers Brook; new bridge.

Southwick—State highway over Webb Brook; new bridge.

Sterling—Bridge Road over East Wachusett Brook; replacement of bridge destroyed by flood.

Sudbury—Boston Post Road over Parmenters Mill Pond; new bridge.

Sudbury—Worcester Road over tracks of New York, New Haven and Hartford Railroad; grade crossing elimination.

Sutton—Stevens Road over Mumford River; replacement of bridge destroyed by flood.

Sutton—Worcester Road over Wilkinsonville Road; grade separation.

Sutton—State highway over Mumford River; replacement of bridge destroyed by flood.

Sutton—Worcester Road over Central Turnpike; grade separation.

Swampscott—Tracks of Boston and Maine Railroad over Paradise Road; grade crossing elimination.

Topsfield—Ipswich Road over Newburyport Turnpike; grade separation.

Townsend—Warren Road over Squannacook River; replacement of bridge destroyed by flood.

Uxbridge—Mendon Street over Blackstone River; replacement of bridge destroyed by flood.

Ware—Church Street over Ware River; replacement of bridge destroyed by flood.

Ware—Gibbs Crossing over Ware River; replacement of bridge destroyed by flood.

West Bridgewater—West Centre Street over Hockamuck River; new bridge.

Weston—Circumferential Highway over South Avenue; grade separation.

Weston—Circumferential Highway over Weston Aqueduct; grade separation.

Williamstown—North Adams Road over Green River; new bridge.

Winchendon—Highway route No. 202 over Millers River; replacement of bridge destroyed by flood.

Winchendon—Brown Street over Millers River; replacement of bridge destroyed by flood.

Winchendon—Sibley Road over Millers River; replacement of bridge destroyed by flood.

Winchendon—Joe Alger Road over Millers River; replacement of bridge destroyed by flood.

Winchendon—High Street over Millers River; replacement of bridge destroyed by flood.

Winchendon—Royalston Road over Bullardville Brook; replacement of bridge destroyed by flood.

Winchendon—State highway route No. 12 over Millers River; replacement of bridge destroyed by flood.

Winchendon—New Boston Road over tracks of Boston and Maine Railroad; grade crossing elimination.

Winchendon—Ashburnham Road, Pequog Crossing over tracks of Boston and Maine Railroad; grade Crossing elimination.

Winchester—Main Street over outlet of Wedge Pond; new bridge.

Windsor—Worthington Road over two brooks; two new bridges.

Windsor—Savoy Road over Westfield River; new bridge.

*Examinations, Reports, Estimates, etc., at Request of
Counties, Cities and Towns.*

Berlin—Marlborough Road over Assabet River; examination and report on condition of bridge and repairs required.

Charlemont—Hawley Road over Deerfield River; estimate for new bridge.

Dudley—At Webster line, Pleasant Street over French River; examination and estimate for new bridge.

Framingham—Holliston Road over Washakum Pond; examination and report on condition of bridge.

Gill—At Montague line, Turners Falls Road suspension bridge over Connecticut River; examination and estimate for repairs.

Ludlow—At Wilbraham line, over Chicopee River; examination, report, and estimate for repairs.

Monson—Hampden Avenue over Chicopee Brook; examination and estimate for new bridge.

Royalston—South Royalston Road over Millers River; report on condition and method of repair.

Wareham—Agawam Road over Wareham River; examination and estimate for repairs.

Wareham—Dummy Bridge over Swift River; examination and estimate for repairs.

Warren—Main Street over Quaboag River; estimate for cost of repairs and for new bridge.

*Examinations, Reports, Estimates, etc., by direction of
the Department*

Agawam—At Springfield line, South End Bridge over Connecticut River; report on condition and estimate for new bridge.

Cummington—Village Bridge over Westfield River; report on condition.

Dudley—Pine Street over abandoned right-of-way of Southern New England Railroad; estimate of cost for filling in highway.

East Longmeadow—Bridge over tracks of New York, New Haven and Hartford Railroad; design of sidewalk for bridge.

Erving—At Montague line, Millers Falls Bridge over Millers River; examination and report on condition.

Falmouth—Nashawena Street over Nashawena Creek; examination and estimate for new bridge.

Falmouth—Silver Beach Road over Herring River; examination and estimate for new bridge.

Falmouth—Silver Beach Road over tracks of New York, New Haven and Hartford Railroad; examination and estimate for new bridge.

Greenfield—At Montague line, Montague City Bridge over Connecticut River; estimate for new bridge.

Greenfield—At Montague line, street railway bridge; estimate for alteration for use as highway bridge.

Groveland—At Haverhill line, Groveland Bridge over Merrimack River; report on condition.

Holyoke—At South Hadley line, over Connecticut River; examination, report and estimate for repairs.

Leicester—Cherry Valley Bridge over Kettle Brook; examination and report on condition.

Lowell—Central Bridge over Merrimack River; report on condition and estimate for new bridge.

Newburyport—At Salisbury line, over Merrimack River; report on advisability of new fender pier.

Norfolk—At Walpole line, Winter Street over Stop River; report on condition and estimate for widening bridge.

Northfield—Schell Bridge over Connecticut River; examination and report on condition of bridge.

Northfield—Bennetts Meadow Bridge over Connecticut River; examination and report on condition of bridge.

Palmer—Main Street over Canal; examination, report, and estimate for new bridge.

Ware—East Street over Ware River; examination and estimate for repairs.

*Bridge Plans Submitted and Examined during the Year under the Provisions of
Section 35, Chapter 85 of the General Laws (Ter. Edition)*

Charlton—Oxford Street over Little River; one 17-foot span, stone arch.

Charlton—Grover Road over Little River; one 24-foot span, steel stringers with concrete floor.

Charlton—Turner Road over Muddy Brook; one 17-foot span, stone arch.

Dudley—Hill Street over French River; one 50-foot span, steel stringers with concrete floor.

Fall River—Plymouth Avenue over Quequechan River; two spans, concrete beams; total length 63 feet.

- Fitchburg*—Princeton Road over Nashua River; one 32-foot span, extension of granite arch.
- Haverhill*—Lowell Avenue over Creek Brook.
- Holden*—Princeton Street over North Woods Stream; one 24-foot span, metal culvert.
- Leicester*—Auburn Street over Kettle Brook; one 18-foot span, stone arch.
- Leicester*—Chapel Street over Brick City Pond; one 20-foot span, steel stringers with concrete floor.
- Leominster*—Pond Street over Monoosnock Brook; one span, concrete beams.
- Leominster*—Exchange Street over Monoosnock Brook; one 45-foot span, concrete rigid frame.
- Leominster*—West Street; one 18-foot span, concrete beams.
- Leominster*—Lindell Avenue over Monoosnock Brook; one 36-foot span, concrete beams.
- Pittsfield*—Pomeroy Avenue, Lowden Bridge over East Branch Housatonic River; one 86-foot span, steel through plate girder with concrete floor.
- Pittsfield*—Columbus Avenue over West Branch Housatonic River; one 43-foot span, steel stringers with concrete floor.
- Pittsfield*—Lakeway Drive over outlet of Onota Lake; steel stringers with concrete floor.
- Royalston*—Fitzwilliam Road over Lawrence Brook; one 25-foot span, steel stringers with concrete floor.
- Royalston*—Winchendon Road over Priest Brook; one 30-foot span, steel stringers with concrete floor.
- Rutland*—Lower Intervale Road over Ware River; one 30-foot span, steel stringers with concrete floor.
- Southbridge*—Sandersdale Road; one 14-foot span, concrete slab.
- Upton*—West Street over West River; one 23-foot span, steel stringers with concrete floor.
- Westminster*—North Common Road over Whitman River; one 26-foot span, steel stringers with concrete floor.
- Winchendon*—Robbins Road over Robbins Pond Brook; one 20-foot span, steel stringers with concrete floor.
- Report on advisability of using asphalt blocks for bridge surfacing.

TEMPORARY BRIDGES ACROSS THE CONNECTICUT RIVER TO AID IN RELIEVING
THE EXISTING CONDITIONS RESULTING FROM THE RECENT FLOODS

Chapter 174, Acts of 1936 provided as follows:

SECTION 1. The department of public works is hereby authorized and directed, with the consent of the county commissioners of the county or counties in which temporary bridge construction may be required by reason of the damages caused by the recent floods and subject to such approval from the appropriate federal authorities as may be required, to construct temporary bridges across the Connecticut river at such points as said department and said county commissioners may determine in each case. For the aforesaid purpose, there may be expended from the appropriation hereinafter made and any federal funds that may be made available not more than four hundred and fifty thousand dollars in the aggregate.

SECTION 2. For the purpose of carrying out the provisions of this act, and subject to the conditions contained in section one, the sum of four hundred and fifty thousand dollars is hereby appropriated from the Highway Fund, subject to the provisions of law regulating the disbursement of public funds and the approval thereof.

Temporary bridges were constructed between Deerfield and Sunderland and between Greenfield and Montague. Expenditures were made as follows:

Deerfield-Sunderland	\$127,056.00
Greenfield-Montague	130,000.00
Holyoke-So. Hadley	171,808.11
Northampton-Hadley	21,135.89
Total	\$450,000.00

REPAIR OR RECONSTRUCTION OF CERTAIN BRIDGES DAMAGED BY RECENT FLOODS

Chapter 429, Acts of 1936 provided as follows:

SECTION 1. The department of public works, hereinafter called the department, is hereby authorized and directed to repair or reconstruct county, city or town bridges which were destroyed or damaged by the recent floods, to the extent that funds are made available therefor by the federal government and under this act. Projects hereunder shall be selected, so far as possible, in accordance with a tabulation of bridges damaged by the recent floods made by the department and dated June eighth, nineteen hundred and thirty-six, which shall be filed and kept open to public inspection in the office of the state secretary. Such bridges shall be repaired or reconstructed in such manner and in such locations as the department, with the approval of the county commissioners of the county where the bridge is located, may determine.

SECTION 2. The department may construct approaches to any of such bridges and make necessary alterations to street railways and railroad tracks and in connecting ways and may construct any necessary drainage outlets and cross any railroads at grade or otherwise as may be necessary to carry out the provisions of this act.

SECTION 3. There is hereby made available for the purposes of this act sums not exceeding, in the aggregate, six hundred and fifty thousand dollars, payable, with respect to each project hereunder, as follows:—one half by the commonwealth out of the unexpended balance of the appropriation made by chapter one hundred and forty-four of the acts of the current year, one fourth by the commonwealth from the Highway Fund, one eighth by the county and one eighth by the city or town in which the bridge is located, and, in addition, sums not exceeding, in the aggregate, one hundred thousand dollars, payable by the commonwealth for engineering services as follows:—one half out of said unexpended balance of the appropriation made by said chapter one hundred and forty-four and one half from the Highway Fund; provided, that sums amounting, in the aggregate, to not less than one million eight hundred and fifty thousand dollars shall have been made available for the purposes of this act by the federal government. In the event that a bridge subject to this section is located in more than one county, or in more than one municipality, the payment herein required to be made by the county, or by the municipality, shall be made in equal proportions by such counties, or by such municipalities.

SECTION 4. The amounts to be paid by cities and towns as aforesaid shall be assessed and collected by the state treasurer as a part of their state tax in the year nineteen hundred and thirty-seven.

SECTION 5. For the purpose of meeting payments required to be made under this act a city, town or county may borrow such sums as may be necessary, and may issue bonds or notes therefor which shall be payable in not more than ten years; and such indebtedness shall, except as herein provided, be subject to chapter forty-four of the General Laws in the case of a city or town, and to chapter thirty-five of the General Laws in the case of a county. Any borrowing hereunder by a city or town may be outside its statutory limit of indebtedness.

SECTION 6. For the purposes of this act, the department, on behalf of the commonwealth, or on behalf of any county, city or town, may enter upon or take by eminent domain under chapter seventy-nine of the General Laws, or acquire by purchase or otherwise, such public or private lands, or parts thereof or rights therein, or such public ways, as may be necessary for carrying out any project under this act, including such lands or rights therein as may be necessary for the construction of any necessary drainage outlets; provided, that no damages shall be paid for public lands or public ways so taken. Upon the filing of an order to that effect by the department in its office, the title to and control of lands or rights therein taken or acquired in connection with any project hereunder shall become vested in the county, city or town in whose behalf the land was taken or acquired as aforesaid. The cost of land takings, including any damages awarded on account of any taking of land or property, or any injury to the same, and any sums paid for lands or rights purchased, shall be paid by the commonwealth out of the proceeds of obligations issued under chapter four hundred and sixty-four of the acts of nineteen hundred and thirty-five, and the total amount so paid shall be included within the limit of aggregate ultimate liability on the part of the commonwealth specified in item (4) of section one of said

chapter four hundred and sixty-four. Sums paid under this section shall be in addition to those specified in section three of this act, but no payments under this section with respect to any project hereunder shall be made unless and until sums have been made available therefor by the federal government as provided in said section three.

SECTION 7. Upon completion of the repair or reconstruction of a bridge as herein authorized, the bridge, together with its approaches, shall continue to be or become a public highway and shall be maintained by the county or counties, or municipality or municipalities, in which it is located, according to whether said bridge is a county, city or town bridge.

The expenditures during the year for the Construction of Certain Bridges under chapter 429, in various Counties were as follows:

Berkshire	\$1,055.37	Hampshire	\$399.73
Franklin	1,443.25	Middlesex	13,831.31
Hampden	759.09	Worcester	14,457.81
		Eng.	\$18,051.89
		Total	\$49,998.45

Details of the foregoing expenditures follow:—

Berkshire County.—Cheshire, \$214.24; North Adams, \$244.34; Sandisfield, \$307.50; Windsor, \$289.29.

Franklin County.—Ashfield, \$14.52; Charlemont, \$43.15; Colrain, \$243.13; Conway, \$170.74; Erving, \$34.53; Montague, \$356.20; Northfield, \$207.08; Orange, \$14.52; Warwick, \$215.45; Wendell, \$143.93.

Hampden County.—Blandford, \$226.73; Brimfield, \$413.80; Chester, \$92.24; Ludlow, \$21.32; Wilbraham, \$5.

Hampshire County.—Easthampton, \$91.74; Hatfield, \$24.50; Ware, \$283.49.

Middlesex County.—Acton, \$572.30; Ashby, \$147.69; Dracut, \$909.24; Framingham, \$145.85; Hudson, \$58.15; Lowell, \$6,059.24; Maynard, \$30.; Pepperell, \$3,810.52; Shirley, \$1,422.99; Townsend, \$675.33.

Worcester County.—Ashburnham, \$1,025.29; Athol, \$360.72; Barre, \$20; Berlin, \$388.55; Blackstone, \$60.57; Charlton, \$441.63; Clinton, \$91.16; Dana, \$266.61; Dudley, \$72.07; Grafton, \$51.43; Hardwick, \$550.18; East Brookfield, \$56.20; Holden, \$417.18; Hubbardston, \$640.34; Leicester, \$1,378.02; Leominster, \$189.92; Lunenburg, \$838.87; Mendon, \$395.19; Millbury, \$190; North Brookfield, \$12.; Oxford, \$1,056.14; Petersham, \$383.47; Phillipston, \$101.86; Princeton, \$209.48; Royalston, \$484.07; Rutland, \$60; Spencer, \$673.01; Sterling, \$776.41; Sturbridge, \$338.49; Templeton, \$40; Upton, \$389.35; Uxbridge, \$900.56; Warren, \$122; West Boylston, \$19.50; West Brookfield, \$656.32; Westborough, \$44.91; Westminster, \$32.38; Winchendon, \$390; Worcester, \$333.93.

CONSTRUCTION OR RECONSTRUCTION OF THREE BRIDGES OVER THE CONNECTICUT RIVER AND ONE BRIDGE OVER THE MERRIMACK RIVER

Chapter 433, Acts of 1936 provides as follows:

SECTION 1. The department of public works, hereinafter called the department, is hereby authorized and directed to construct a bridge, and approaches thereto, across the Connecticut river from a point in the Turners Falls section of the town of Montague to a point on the state highway in the vicinity of the Riverside section of the town of Gill, and also a bridge, and approaches thereto, across said river at or near the site of the existing Sunderland—South Deerfield bridge, so called; provided, that the entire cost of such work shall be met substantially out of funds made available therefor by the federal government under the Federal Emergency Relief Appropriation Act of 1935, or any other appropriate federal statute. The said bridges, and approaches thereto, shall cross at other than grade any railroads or railroad sidings encountered.

SECTION 2. The department is hereby further authorized and directed to reconstruct the bridge over said river, known as the Northampton-Hadley bridge, at a total cost of not exceeding one million dollars; provided, that federal funds sufficient to pay substantially one half of said total cost are made available therefor under

the provisions of the act of congress known as the Hayden-Cartwright Road Act. Substantially one half of said total cost shall be paid out of federal funds made available therefor as aforesaid and the balance thereof shall be payable from the appropriation made by item six hundred and forty-three of chapter three hundred and four of the acts of the current year.

SECTION 3. The department is hereby further authorized and directed to construct a bridge, and approaches thereto, over the Merrimack river in the city of Lowell at or near the site of the existing Central bridge, so called, at a total cost of not exceeding five hundred thousand dollars; provided, that federal funds sufficient to pay forty per cent of said total cost are made available therefor under the provisions of any appropriate federal statute. Forty per cent of said total cost shall be paid out of federal funds made available therefor as aforesaid and the other sixty per cent thereof shall be payable as follows:—one half by the commonwealth from the Highway Fund, one fourth by the county of Middlesex and one fourth by the city of Lowell.

SECTION 4. Payments by the county of Middlesex and the city of Lowell under section three shall be paid into the treasury of the commonwealth upon written order of the department and sums so paid shall be available for expenditure by the department for the purposes of said section without appropriation by the general court.

SECTION 5. For the purpose of meeting payments required to be made as aforesaid, the county of Middlesex and the city of Lowell may each borrow such sums as may be necessary, and may issue bonds or notes therefor which shall be payable in not more than ten years; and such indebtedness shall, except as herein provided, be subject to chapter forty-four of the General Laws in the case of said city, and to chapter thirty-five of the General Laws in the case of said county. Any borrowing hereunder by said city may be outside its statutory limit of indebtedness.

SECTION 6. For the purposes of this act, the department, on behalf of the commonwealth, or on behalf of any county, city or town, may enter upon or take by eminent domain under chapter seventy-nine of the General Laws, or acquire by purchase or otherwise, such public or private lands, or parts thereof or rights therein, or such public ways, as may be necessary for carrying out any project under this act, including such lands or rights therein as may be necessary for the construction of any necessary drainage outlets; provided, that no damages shall be paid for public lands or public ways so taken. Upon the filing of an order to that effect by the department in its office, the title to and control of lands or rights therein taken or acquired in connection with any project hereunder shall become vested in the county, city or town in whose behalf the land was taken or acquired as aforesaid. The cost of land takings, including any damages awarded on account of any taking of land or property, or any injury to the same, and any sums paid for lands or rights purchased, shall be paid by the commonwealth out of the proceeds of obligations issued under chapter four hundred and sixty-four of the acts of nineteen hundred and thirty-five, and the total amount so paid shall be included within the limit of aggregate ultimate liability on the part of the commonwealth specified in item (4) of section one of said chapter four hundred and sixty-four. Sums paid under this section shall be in addition to those otherwise specified in this act, but no payments under this section with respect to any project hereunder shall be made unless and until sums have been made available therefor by the federal government as provided in this act.

SECTION 7. The department may make a contract or contracts for any project hereinbefore authorized if and when the federal authorities give proper assurance to it that the federal government will furnish the funds necessary to meet the cost of the construction involved therein, as provided by this act, notwithstanding the provisions of section twenty-seven of chapter twenty-nine of the General Laws.

SECTION 8. The department is hereby authorized to make such alterations to street railway and railroad tracks and in connecting ways and to construct such drainage outlets as may be necessary to carry out the provisions of this act.

SECTION 9. Each of the bridges, and approaches thereto, constructed hereunder shall, upon completion, become and be maintained as a public highway by the county in which located, except that the said bridge, and approaches thereto, constructed under section three in the city of Lowell shall be maintained by said city.

The bridge between Deerfield and Sunderland is under construction. The plans are being prepared for the other bridges and will be ready to advertise early in the spring.

EXAMINATIONS, STUDIES, ESTIMATES, REPORTS AND WORK DONE
BY DIRECTION OF ACTS AND RESOLVES OF THE LEGISLATURE

Chapter 71, Resolves of 1936,—Estimate of State Highway over the Route of the Old Middlesex Turnpike, so-called

The resolve provided for preparation of surveys, estimates, plans and specifications relative to a State highway over the route of the old Middlesex Turnpike from Lexington to North Chelmsford.

CONSTRUCTION OF TOWN AND COUNTY WAYS
(Section 34, Chapter 90, General Laws, Ter. Ed.)

During the year the Department has contracted for work to be done in the towns and cities named in the following table, which also shows the type of road or nature of work, the length contracted for, and the allotments or contributions by the State, towns, cities and counties:

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
<i>Barnstable County</i>					
Barnstable . . .	\$4,500 00	\$3,000 00	\$3,000 00	Gravel and tar mixed in place .	3,150
Barnstable . . .	10,000 00	5,000 00	5,000 00	Bridge and approaches .	—
Bourne . . .	6,750 00	4,500 00	4,500 00	Bituminous concrete .	3,825
Brewster . . .	1,125 00	750 00	750 00	Gravel and asphalt mixed in place .	3,894
Chatham . . .	9,000 00	4,500 00	4,500 00	Bituminous concrete .	6,097
Falmouth . . .	7,500 00	5,000 00	5,000 00	Bituminous concrete .	2,700
Falmouth . . .	119,500 00	—	—	Bituminous concrete .	5,446
Harwich . . .	1,350 00	675 00	675 00	Maintenance .	8,700
Harwich . . .	9,000 00	4,500 00	4,500 00	Bituminous concrete .	2,983
Orleans . . .	3,750 00	2,500 00	2,500 00	Bituminous concrete .	1,875
Orleans . . .	4,500 00	3,000 00	3,000 00	Bituminous concrete .	2,097
Wellfleet . . .	4,500 00	3,000 00	3,000 00	Clay hardening .	2,400
Yarmouth . . .	2,250 00	1,500 00	1,500 00	Maintenance .	11,515
<i>Berkshire County</i>					
Adams . . .	\$6,000 00	\$3,000 00	\$3,000 00	Bridge	—
Alford . . .	1,125 00	750 00	750 00	Gravel	1,150
Alford . . .	375 00	250 00	250 00	Gravel and tar	800
Becket . . .	3,750 00	2,500 00	2,500 00	{ Gravel	1,450
				{ Maintenance	2,167
Cheshire . . .	2,400 00	1,200 00	1,200 00	{ Gravel	1,700
Clarksburg . . .	1,500 00	750 00	750 00	{ Stone retread	1,200
				{ Gravel	225
Clarksburg . . .	375 00	250 00	250 00	Maintenance	8,625
Dalton . . .	7,500 00	5,000 00	5,000 00	Penolithic pavement .	3,104
Egremont . . .	2,400 00	1,600 00	1,600 00	Stone retread	2,900
Florida . . .	3,000 00	2,000 00	2,000 00	Gravel	2,650
Great Barrington . . .	7,500 00	5,000 00	5,000 00	Penolithic pavement .	3,352
Hancock . . .	7,650 00	460 00	1,840 00	Maintenance	2,000
Hancock . . .	250 00	333 33	333 33	Penolithic pavement .	9,400
Hinsdale . . .	750 00	500 00	500 00	Gravel	1,050
Lanesborough . . .	3,750 00	2,500 00	2,500 00	Stone retread	3,550
Lee . . .	500 00	2,000 00	500 00	{ Stone retread	1,600
				{ Oiling	1,000
				{ Gravel	400
Lee . . .	7,000 00	3,000 00	4,500 00	Bituminous macadam .	4,541
Lenox . . .	3,750 00	2,500 00	2,500 00	Bituminous macadam .	1,750
Lenox . . .	3,750 00	2,500 00	2,500 00	Oiling, stone retread, and gravel and tar	4,750
Monterey . . .	2,250 00	1,500 00	1,500 00	{ Oiling	2,225
				{ Gravel	1,975
Monterey . . .	1,100 00	500 00	850 00	Gravel and tar	4,000
Mount Washington . . .	1,125 00	500 00	1,000 00	Gravel	1,100
Mount Washington . . .	1,000 00	—	—	Gravel	450
New Ashford . . .	600 00	400 00	400 00	Gravel	700
New Ashford . . .	375 00	250 00	250 00	Gravel	900
New Marlborough . . .	2,250 00	500 00	500 00	Tar reinforced with cotton fabric .	8,700
	55 09	—	55 09	Deficit	—
New Marlborough . . .	3,000 00	2,500 00	2,500 00	Bridge and approaches .	—
North Adams . . .	11,250 00	7,500 00	7,500 00	Penolithic pavement .	2,912
North Adams . . .	3,000 00	2,000 00	2,000 00	Reinforced cement concrete .	2,100
Otis . . .	3,375 00	2,250 00	2,000 00	Gravel and oiling	4,700
Peru . . .	3,000 00	—	—	Maintenance	15,300
Pittsfield . . .	16,071 00	10,714 50	10,714 50	Reinforced cement concrete .	5,787
Pittsfield . . .	6,429 00	4,285 50	4,285 50	Penolithic pavement .	2,992
Richmond . . .	1,875 00	1,250 00	1,250 00	Gravel	850

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
	State	Town			
Richmond . . .	470 00	625 00	625 00	Maintenance . . .	15,840
Sandisfield . . .	3,000 00	2,000 00	2,000 00	Gravel and tar . . .	4,950
Savoy . . .	1,500 00	500 00	1,500 00	Gravel and stone retread . . .	1,550
Sheffield . . .	1,500 00	750 00	750 00	Stone retread . . .	2,100
Sheffield . . .	1,500 00	750 00	750 00	Oiling . . .	700
Stockbridge . . .	9,000 00	6,200 00	6,000 00	Gravel . . .	500
Tyringham . . .	3,000 00	2,000 00	2,000 00	Penolithic pavement . . .	3,300
Washington . . .	5,000 00	1,500 00	2,000 00	Maintenance . . .	12,100
West Stockbridge . . .	2,625 00	1,750 00	1,750 00	Gravel and oiling . . .	5,450
West Stockbridge . . .	1,875 00	1,250 00	1,250 00	Gravel and oiling . . .	5,950
Williamstown . . .	3,750 00	2,500 00	2,500 00	Gravel and tar . . .	1,025
Windsor . . .	1,500 00	750 00	750 00	Gravel and stone retread . . .	5,050
				Gravel . . .	1,000
<i>Bristol County</i>					
Acushnet . . .	\$3,750 00	\$2,500 00	\$2,500 00	Penolithic pavement . . .	1,450
Acushnet . . .	375 00	500 00	500 00	Maintenance . . .	20,819
Attleborough . . .	18,000 00	12,000 00	12,000 00	Bituminous macadam . . .	5,080
Berkley . . .	750 00	1,000 00	1,000 00	Maintenance . . .	46,936
Berkley } . . .	3,250 00	1,725 00	1,875 00		
Dighton } . . .	6,250 00	4,025 00	3,875 00	Bridge . . .	—
Easton . . .	4,500 00	4,500 00	—	Gravel and tar . . .	3,500
Fairhaven . . .	750 00	1,000 00	1,000 00	Maintenance . . .	28,195
Freetown . . .	750 00	1,000 00	1,000 00	Maintenance . . .	62,527
Mansfield . . .	4,500 00	3,000 00	3,000 00	Gravel and tar . . .	2,300
Norton . . .	190 00	250 00	250 00	Maintenance . . .	23,194
Raynham . . .	375 00	500 00	500 00	Maintenance . . .	16,080
Rehoboth . . .	2,625 00	2,625 00	—	Gravel and tar . . .	1,250
Rehoboth . . .	600 00	800 00	800 00	Maintenance . . .	49,437
Taunton . . .	10,000 00	5,000 00	5,000 00	Bridge and approaches . . .	—
Westport . . .	22,500 00	11,250 00	11,250 00	Bridge repairs . . .	—
<i>Dukes County</i>					
West Tisbury . . .	\$750 00	\$500 00	\$500 00	Maintenance . . .	10,560
<i>Essex County</i>					
Amesbury . . .	\$750 00	\$750 00	—	Maintenance . . .	10,600
Andover . . .	9,750 00	4,875 00	6,500 00	Penolithic pavement . . .	4,884
Boxford . . .	1,500 00	1,500 00	—	Maintenance . . .	10,000
Boxford . . .	900 00	150 00	1,000 00	Maintenance . . .	5,200
Boxford . . .	2,250 00	1,125 00	1,000 00	Grading . . .	1,685
Boxford . . .	2,250 00	1,125 00	1,000 00	Stone retread . . .	900
Danvers . . .	5,250 00	3,500 00	3,500 00	Bituminous macadam . . .	2,100
Essex . . .	750 00	750 00	—	Maintenance . . .	12,000
Georgetown . . .	563 00	563 00	—	Maintenance . . .	9,100
Gloucester . . .	2,250 00	2,250 00	—	Bituminous macadam . . .	1,650
Gloucester . . .	1,500 00	1,500 00	—	Broken stone surfacing . . .	1,650
Hamilton . . .	5,625 00	3,750 00	3,750 00	Bituminous macadam . . .	3,041
Hamilton . . .	3,000 00	2,000 00	2,000 00	Grading . . .	2,985
Haverhill . . .	27,000 00	13,500 00	13,500 00	Penolithic pavement . . .	4,407
Haverhill . . .	26,250 00	27,500 00	17,500 00	Penolithic pavement . . .	7,932
Lawrence . . .	16,500 00	8,250 00	11,000 00	Reinforced cement concrete . . .	4,282
Lynn . . .	2,250 00	1,125 00	1,500 00	Bituminous concrete . . .	400
Lynn . . .	18,750 00	18,750 00	—	Bituminous macadam . . .	565
Lynnfield . . .	3,750 00	2,500 00	2,500 00	Bituminous macadam . . .	2,950
Lynnfield . . .	3,750 00	2,500 00	2,500 00	Bituminous macadam . . .	1,550
Manchester . . .	4,025 00	671 00	2,683 00	Oiling and bituminous macadam . . .	3,800
Manchester . . .	4,975 00	829 00	3,317 00	Grading . . .	—
Marblehead . . .	4,000 00	2,000 00	2,000 00	Bituminous macadam . . .	1,650
Merrimac . . .	375 00	375 00	—	Bituminous macadam . . .	993
Methuen . . .	\$15,000 00	\$10,000 00	\$10,000 00	Maintenance . . .	5,502
Middleton . . .	1,125 00	1,125 00	—	Bituminous concrete . . .	3,150
Middleton } . . .	3,012 50	410 00	1,738 00	Bituminous macadam . . .	780
Peabody } . . .	4,875 00	1,000 00	2,500 00	Maintenance . . .	9,600
Middleton . . .	23,800 50	3,715 00	15,762 00	Bridge and approaches . . .	—
Newbury . . .	1,125 00	1,125 00	—	Bituminous macadam . . .	4,712
Newbury . . .	700 00	—	500 00	Maintenance . . .	14,000
North Andover . . .	3,750 00	2,500 00	2,500 00	Gravel and tar . . .	3,400
Peabody . . .	15,000 00	10,000 00	10,000 00	Broken stone and asphalt mixed in place . . .	4,100
Rockport . . .	750 00	375 00	—	Bituminous macadam, etc. . .	3,310
Rockport . . .	1,215 00	1,215 00	—	Repairs . . .	—
Rowley . . .	750 00	375 00	500 00	Maintenance . . .	5,718
Rowley . . .	750 00	375 00	500 00	Grading . . .	1,000
Salisbury . . .	1,749 00	874 00	874 00	Gravel and oiling . . .	1,600
Salisbury . . .	3,750 00	2,500 00	2,500 00	Gravel and tar mixed in place . . .	2,000
Salisbury . . .	375 00	375 00	—	Grading . . .	1,350
Saugus . . .	1,500 00	1,500 00	—	Maintenance . . .	1,065
Saugus . . .	4,500 00	3,000 00	3,000 00	Maintenance . . .	21,500
Saugus . . .	3,750 00	2,000 00	2,500 00	Penolithic pavement . . .	1,457
Topsfield . . .	200 00	200 00	—	Bituminous macadam and oiling . . .	3,000
Topsfield . . .	11,250 00	2,000 00	5,000 00	Maintenance . . .	3,600
West Newbury . . .	1,500 00	750 00	1,000 00	Bituminous concrete . . .	4,115
				Broken stone and asphaltic emulsion . . .	2,700

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
<i>Franklin County</i>					
Ashfield	\$750 00	\$375 00	\$375 00	Maintenance	7,500
Ashfield	1,800 00	—	—	Maintenance	15,840
Ashfield	750 00	375 00	375 00	Gravel and tar mixed in place	2,400
Buckland	4,000 00	3,000 00	1,000 00	Bridge and approaches	—
Charlmont	1,500 00	750 00	750 00	Broken stone and tar mixed in place	2,000
Colrain	1,500 00	750 00	750 00	Bituminous macadam	600
Conway	1,500 00	750 00	750 00	Gravel	850
Deerfield	2,250 00	1,500 00	750 00	Bituminous macadam	1,050
Erving	1,500 00	750 00	750 00	Gravel and tar	2,000
Gill	1,500 00	750 00	750 00	Gravel and tar mixed in place	1,000
Gill	2,500 00	—	—	Bituminous material reinforced with cotton fabric	10,560
Greenfield	3,750 00	3,000 00	750 00	Bituminous macadam	3,600
Hawley	1,500 00	375 00	375 00	Bridge and approaches	—
Hawley	1,500 00	375 00	375 00	Maintenance	8,100
Heath	1,500 00	750 00	750 00	Bridge widening and approaches	—
Leverett	750 00	375 00	375 00	Maintenance	11,352
Leverett	750 00	375 00	375 00	Maintenance	3,696
Leyden	1,500 00	750 00	750 00	Gravel and tar	900
Monroe	1,500 00	750 00	750 00	Gravel and tar mixed in place	4,500
New Salem	2,250 00	1,500 00	750 00	Gravel	1,500
Northfield	2,000 00	1,000 00	1,000 00	Bridge and approaches	—
Northfield	30,000 00	—	—	Repairs to two bridges	—
Orange	2,250 00	1,500 00	750 00	Gravel and tar	2,650
Rowe	2,250 00	1,125 00	750 00	Gravel	1,650
Shelburne	1,125 00	750 00	375 00	Bituminous macadam	1,200
Shelburne	1,125 00	750 00	375 00	Bituminous macadam	1,200
Shutesbury	1,500 00	750 00	750 00	Gravel	1,050
Sunderland	10,000 00	3,000 00	1,000 00	Penolithic pavement	5,250
Warwick	1,500 00	750 00	750 00	Gravel	750
Wendell	2,250 00	1,500 00	750 00	Gravel	1,800
Wendell	1,125 00	1,125 00	—	Maintenance	19,272
Whately	1,500 00	750 00	750 00	Bituminous macadam	1,000
<i>Hampden County</i>					
Agawam	\$5,625 00	\$3,750 00	\$1,875 00	Bituminous macadam	2,266
Agawam	1,800 00	900 00	900 00	Maintenance	19,536
Blandford	3,000 00	1,500 00	1,800 00	Gravel	1,000
Brimfield	2,250 00	1,125 00	1,125 00	{ Oiling and stone retread	2,550
Chester	3,000 00	750 00	1,500 00	Grading	2,400
Chester	3,000 00	750 00	1,500 00	Stone retread	2,500
Chicopee	18,750 00	12,500 00	9,375 00	Gravel and oiling	5,000
East Longmeadow	1,125 00	1,125 00	1,125 00	Bituminous macadam	7,650
Granville	4,500 00	2,250 00	2,250 00	Maintenance	26,000
Hampden	1,350 00	600 00	750 00	Bituminous macadam	1,300
Hampden	800 00	200 00	400 00	Bituminous macadam and oiling	2,000
Hampden	2,250 00	900 00	1,350 00	Bituminous macadam	1,150
Holland	375 00	375 00	375 00	Gravel and tar mixed in place	2,300
Holland	3,000 00	750 00	2,400 00	Maintenance	25,600
Holyoke	50,000 00	—	—	Gravel and tar mixed in place	1,575
Longmeadow	5,625 00	2,812 00	2,812 00	Reinforced concrete deck, sidewalk and curb on bridge	—
Ludlow	5,250 00	2,625 00	2,625 00	Gravel and asphalt mixed in place	5,000
Ludlow	500 00	500 00	500 00	Bituminous macadam	2,500
Monson	3,750 00	2,500 00	1,875 00	Maintenance	2,500
Monson	488 00	650 00	488 00	Gravel and tar mixed in place	1,900
Montgomery	3,750 00	750 00	1,875 00	Maintenance	9,530
Palmer	7,500 00	3,750 00	3,750 00	{ Stone retread	3,400
Palmer	\$1,500 00	\$750 00	\$750 00	Gravel	950
Palmer	360 00	360 00	360 00	Penolithic pavement	2,703
Russell	750 00	375 00	375 00	Maintenance	13,250
Southwick	3,750 00	1,500 00	2,250 00	Maintenance	6,850
Tolland	3,750 00	1,500 00	2,250 00	Gravel	850
Wales	2,250 00	750 00	1,500 00	Bituminous macadam	2,000
Wales	225 00	225 00	225 00	Gravel	3,000
West Springfield	18,000 00	9,000 00	9,000 00	Gravel and tar mixed in place	1,400
Westfield	4,500 00	2,250 00	2,250 00	Maintenance	11,800
Westfield	750 00	750 00	750 00	Bituminous macadam	2,535
Wilbraham	3,750 00	1,875 00	1,875 00	Bituminous macadam	4,000
<i>Hampshire County</i>					
Amherst	\$9,000 00	\$6,000 00	\$3,500 00	Maintenance	18,555
Belchertown	5,625 00	3,750 00	3,750 00	Bituminous macadam	1,800
Belchertown	10,625 00	—	1,250 00	Gravel	500
Chesterfield	750 00	375 00	375 00	Grading	6,700
Chesterfield	18,000 00	3,000 00	5,000 00	Gravel	500
Cummington	750 00	375 00	375 00	Stone and tar mixed in place and gravel treated with tar	750
Cummington	2,250 00	1,125 00	1,125 00	Gravel and tar	823
Easthampton	8,250 00	7,000 00	4,000 00	Gravel	1,300
Easthampton	2,500 00	—	1,500 00	Bituminous macadam	3,520
Enfield	375 00	375 00	375 00	Bituminous macadam	820
				Maintenance	11,660

COUNTIES AND TOWNS	CONTRIBUTIONS			TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
	State	Town	County		
Goshen	1,500 00	750 00	750 00	Gravel	1,000
Greenwich	750 00	500 00	500 00	Maintenance	19,008
Huntington	3,000 00	1,500 00	1,500 00	{ Stone retread	4,000
				{ Gravel	1,200
Middlefield	1,500 00	750 00	750 00	Gravel	450
Middlefield	7,000 00	—	—	Stone retread	7,196
Middlefield	750 00	375 00	375 00	Gravel	400
Northampton	5,138 00	2,888 00	2,250 00	Bituminous macadam	2,550
Northampton	5,137 00	2,887 00	2,250 00	Bituminous macadam	1,800
Plainfield	1,500 00	1,000 00	1,000 00	Gravel and tar	1,100
Southampton	750 00	375 00	375 00	Gravel	900
Ware	750 00	500 00	500 00	Grading and oiling	325
Ware	1,350 00	900 00	900 00	Bituminous macadam	500
Westhampton	1,125 00	562 00	563 00	Gravel	1,200
Williamsburg	1,500 00	750 00	750 00	Gravel and tar mixed in place	1,500
Worthington	1,500 00	1,000 00	1,000 00	Gravel	950
Worthington	1,500 00	1,000 00	1,000 00	Gravel	1,750
<i>Middlesex County</i>					
Acton	\$1,500 00	\$2,000 00	\$2,000 00	Maintenance	102,432
Arlington	3,750 00	2,500 00	2,500 00	Bituminous macadam	1,050
Ashby	750 00	500 00	1,000 00	Maintenance	17,952
Ashland	1,125 00	1,500 00	1,875 00	Maintenance	30,096
Ashland	938 00	500 00	750 00	Gravel and tar	1,800
Ayer	1,500 00	2,000 00	2,000 00	Maintenance	50,054
Ayer	5,250 00	3,500 00	3,500 00	Bituminous macadam	1,498
Bedford	3,000 00	2,000 00	2,000 00	Bituminous macadam	2,000
Bedford	1,500 00	1,000 00	1,500 00	Bituminous macadam	1,000
Bedford	1,500 00	2,000 00	2,500 00	Maintenance	46,464
Belmont	15,525 00	13,800 00	6,900 00	Bituminous concrete	3,560
Billerica	2,250 00	2,250 00	2,250 00	Maintenance	97,838
Billerica	2,250 00	3,000 00	1,500 00	Bituminous macadam	1,575
Billerica	3,375 00	3,000 00	1,500 00	Bituminous macadam	1,100
Billerica	1,125 00	1,000 00	500 00	Gravel	1,400
Boxborough	563 00	250 00	500 00	Gravel	1,000
Boxborough	600 00	800 00	800 00	Maintenance	23,479
Burlington	2,250 00	3,000 00	3,000 00	Maintenance	79,728
Burlington	2,250 00	1,125 00	1,500 00	Gravel and tar	2,225
Burlington	3,000 00	2,000 00	2,000 00	{ Bituminous macadam	450
				{ Gravel	970
Burlington	3,000 00	2,000 00	2,000 00	Gravel and tar	3,900
Carlisle	1,500 00	2,000 00	2,000 00	Maintenance	64,944
Chelmsford	2,250 00	3,000 00	3,000 00	Maintenance	83,952
Concord	12,375 00	8,937 50	5,500 00	Bituminous macadam	4,630
Concord	1,312 00	1,531 00	1,750 00	Maintenance	99,739
Dracont	2,250 00	3,000 00	3,000 00	Maintenance	56,232
Dunstable	1,125 00	1,500 00	1,500 00	Maintenance	50,160
Dunstable	1,500 00	1,000 00	1,000 00	Maintenance	42,240
				{ Penolithic pavement	5,620
Framingham	33,750 00	24,375 00	15,000 00	{ Bituminous concrete	150
				{ Oiling	3,090
Framingham	1,500 00	2,000 00	2,500 00	Maintenance	85,483
Groton	2,625 00	3,500 00	4,375 00	Maintenance	55,018
Groton	4,500 00	3,000 00	3,000 00	Gravel and tar	4,400
Holliston	675 00	300 00	600 00	Gravel and tar	921
Holliston	4,500 00	1,000 00	4,000 00	Bituminous macadam	1,800
Holliston	1,125 00	1,500 00	1,500 00	Maintenance	46,772
Hopkinton	1,500 00	2,000 00	2,000 00	Maintenance	70,224
Hudson	12,375 00	11,000 00	9,625 00	Penolithic pavement	3,670
Hudson	750 00	1,000 00	1,250 00	Maintenance	55,176
Lexington	10,725 00	9,300 00	5,000 00	Bituminous macadam	3,855
Lexington	1,350 00	1,200 00	600 00	Gravel and tar	250
Lexington	1,500 00	2,000 00	2,000 00	Maintenance	56,549
Lincoln	2,250 00	1,500 00	1,500 00	Bituminous macadam and gravel (widening)	17,424
Lincoln	750 00	1,000 00	1,000 00	Maintenance	36,960
Littleton	2,250 00	1,500 00	1,500 00	Gravel and tar	2,500
Littleton	1,575 00	2,100 00	2,100 00	Maintenance	60,192
Malden	30,000 00	21,000 00	15,000 00	Bituminous macadam	5,679
Marlborough	5,062 00	4,500 00	2,500 00	Bituminous macadam	1,008
Maynard	750 00	1,000 00	1,000 00	Maintenance	35,218
Maynard }	4,500 00	4,000 00	2,000 00	{ Bituminous macadam	1,253
Maynard }				{ Gravel and tar (widening)	5,300
Medford	4,125 00	3,600 00	3,000 00	Bituminous concrete	700
Natick	8,775 00	7,800 00	3,900 00	Bituminous macadam	2,575
Natick	1,125 00	1,500 00	1,875 00	Maintenance	57,394
Natick	3,300 00	2,200 00	2,200 00	Drainage system	—
Newton	18,750 00	20,000 00	8,375 00	{ Bituminous concrete	2,195
Newton }				{ Bituminous concrete	2,050
Newton }				{ Bituminous concrete	7,720
North Reading	1,500 00	2,000 00	2,000 00	Maintenance	52,272
North Reading	4,500 00	3,000 00	3,000 00	Bituminous macadam	3,000
Pepperell	3,000 00	4,000 00	4,000 00	Maintenance	83,424
Reading	4,500 00	3,000 00	3,000 00	Bituminous macadam	1,600
Reading	4,500 00	4,000 00	2,000 00	Bituminous macadam	1,800
Reading	750 00	1,000 00	1,250 00	Maintenance	31,838
Sherborn	1,875 00	2,500 00	2,500 00	Maintenance	74,448

COUNTIES AND TOWNS	CONTRIBUTIONS			TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
	State	Town	County		
Shirley	6,000 00	4,000 00	4,000 00	Gravel and tar	6,025
Shirley	1,500 00	2,000 00	2,000 00	Maintenance	51,216
Stoneham	5,625 00	5,000 00	2,500 00	Bituminous macadam	1,410
Stow	1,500 00	2,000 00	2,500 00	Maintenance	41,184
Sudbury	1,500 00	2,000 00	2,000 00	Maintenance	81,840
Tewksbury	1,500 00	2,000 00	2,000 00	Maintenance	52,272
Tewksbury	750 00	500 00	500 00	Gravel	800
Townsend	1,500 00	2,000 00	2,000 00	Maintenance	39,442
Townsend	1,500 00	1,000 00	1,000 00	Gravel and oiling	2,200
Tyngsborough	1,500 00	1,000 00	1,000 00	Gravel and tar	2,000
Tyngsborough	1,500 00	1,000 00	1,500 00	Gravel and tar	1,900
Tyngsborough	1,875 00	2,500 00	2,500 00	Maintenance	82,896
Wakefield	6,750 00	4,875 00	3,000 00	Bituminous macadam	2,625
Wakefield	1,500 00	2,000 00	2,500 00	Maintenance	42,504
Wakefield	3,375 00	2,437 50	1,500 00	Bituminous macadam	1,000
Waltham	6,750 00	4,500 00	4,500 00	Bituminous macadam	4,350
Watertown	3,600 00	2,400 00	2,400 00	Bituminous concrete	1,480
Watertown	7,800 00	5,200 00	5,200 00	Bituminous macadam	2,855
Wayland	6,750 00	6,000 00	3,000 00	Bituminous macadam	3,325
Wayland	1,875 00	2,500 00	2,500 00	Maintenance	52,800
Westford	3,750 00	3,750 00	3,750 00	Maintenance	143,088
Wilmington	1,500 00	750 00	750 00	Gravel and tar	850
Wilmington	900 00	1,200 00	1,450 00	Maintenance	39,917
Winchester	28,125 00	30,000 00	15,000 00	Bituminous concrete	6,842
Winchester	3,000 00	2,000 00	1,000 00	Bridge and approaches	—
Woburn	20,250 00	18,000 00	9,000 00	Bituminous concrete	4,650
Woburn				Bituminous macadam	970

Norfolk County

Avon	\$150 00	\$150 00	\$150 00	Maintenance	29,198
Bellingham	1,500 00	375 00	750 00	Maintenance	62,040
Brookline	7,500 00	7,500 00	—	Bituminous concrete	2,711
Brookline				Curbing	—
Canton	750 00	750 00	750 00	Maintenance	13,992
Dedham	7,125 00	9,500 00	—	Penolithic pavement	2,398
Foxborough	750 00	750 00	750 00	Maintenance	11,299
Franklin	5,250 00	5,250 00	—	Gravel and tar	3,000
Franklin	2,625 00	3,500 00	—	Gravel and tar	1,300
Franklin	750 00	1,600 00	750 00	Maintenance	45,566
Holbrook	375 00	375 00	375 00	Maintenance	29,462
Medway	1,000 00	1,000 00	1,000 00	Maintenance	61,618
Millis	750 00	750 00	750 00	Maintenance	66,053
Norfolk	637 00	637 00	637 00	Maintenance	63,571
Norwood	4,875 00	4,875 00	—	Bituminous concrete	3,950
Randolph	600 00	600 00	600 00	Maintenance	27,456
Sharon	750 00	750 00	750 00	Maintenance	46,464
Stoughton	375 00	375 00	375 00	Maintenance	29,146
Walpole	9,375 00	9,375 00	—	Penolithic pavement	2,820
Walpole	750 00	750 00	750 00	Maintenance	44,035
Westwood	2,250 00	2,250 00	750 00	Maintenance	21,120
Weymouth	15,000 00	15,000 00	—	Bituminous concrete	3,300
Wrentham	3,000 00	3,000 00	—	Gravel and tar	2,300
Wrentham	3,000 00	3,000 00	—	Gravel and tar	2,700
Wrentham	750 00	750 00	750 00	Maintenance	17,318

Plymouth County

Abington	\$7,500 00	\$3,750 00	\$3,750 00	Penolithic pavement	2,081
Bridgewater	2,250 00	1,125 00	1,125 00	Gravel and tar	6,200
Brookton	20,250 00	20,250 00	—	Bituminous macadam	5,800
Carver	2,250 00	1,125 00	1,125 00	Gravel and tar mixed in place	3,000
Halifax	3,750 00	1,875 00	1,875 00	Gravel and tar	5,000
Hanson	4,000 00	2,000 00	2,000 00	Bridge and approaches	—
Hull	22,500 00	30,000 00	10,000 00	Dredging and constructing wharf with appurtenant structures	—
(Contribution by Federal Government \$53,325.00)					
Kingston	5,250 00	2,625 00	2,625 00	Gravel and tar mixed in place	3,800
Marion	3,750 00	1,875 00	1,875 00	Bituminous macadam	1,850
Marshfield	4,500 00	2,250 00	2,250 00	Bridge extension	—
Mattapoisett	3,000 00	1,500 00	1,500 00	Bituminous macadam	1,000
Plymouth	4,875 00	2,437 00	2,437 00	Gravel and tar mixed in place	7,800
Rockland	7,500 00	3,750 00	3,750 00	Penolithic pavement, etc.	1,970
West Bridgewater	4,500 00	2,250 00	2,250 00	Gravel and tar	4,400
Whitman	12,750 00	6,375 00	6,375 00	Drainage system	—

Worcester County

Ashburnham	\$1,312 00	\$1,000 00	\$1,750 00	Maintenance	39,338
Athol	4,350 00	2,800 00	2,800 00	Bituminous macadam	724
Athol	1,125 00	1,500 00	1,500 00	Maintenance	44,563
Auburn	7,500 00	5,000 00	5,000 00	Stone and tar mixed in place	3,250
Auburn	225 00	300 00	300 00	Maintenance	13,140
Barre	6,000 00	4,000 00	4,000 00	Gravel and tar mixed in place	5,000
Barre	750 00	1,000 00	1,250 00	Maintenance	25,924
Berlin	5,250 00	3,500 00	3,500 00	Gravel and tar mixed in place	1,810
Berlin	1,875 00	1,000 00	2,500 00	Maintenance	51,327
Blackstone	4,500 00	3,000 00	3,000 00	Gravel and tar mixed in place	2,150
				Trap rock and tar mixed in place	2,244
Blackstone	3,000 00	2,000 00	2,000 00	Gravel and tar mixed in place	3,20

COUNTIES AND TOWNS	CONTRIBUTIONS			TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
	State	Town	County		
Blackstone	750 00	1,000 00	1,000 00	Maintenance	47,892
Bolton	2,250 00	1,000 00	2,000 00	Grading and oiling	1,800
Bolton	1,500 00	1,000 00	2,000 00	Maintenance	50,701
Boylston	2,750 00	2,500 00	3,000 00	Maintenance	53,055
Brookfield	750 00	500 00	1,000 00	Gravel and tar mixed in place	1,650
Brookfield	7,500 00	5,000 00	5,000 00	Bridge	—
Brookfield	750 00	500 00	1,000 00	Maintenance	21,775
Charlton	2,475 00	1,500 00	1,800 00	Gravel and tar mixed in place	3,000
Charlton	1,725 00	1,000 00	1,300 00	Grading	4,849
Charlton	750 00	500 00	1,000 00	Maintenance	34,224
Charlton	1,500 00	750 00	750 00	Gravel and tar mixed in place	1,300
Clinton	10,500 00	7,000 00	7,000 00	Penolithic pavement	4,150
Clinton	375 00	250 00	250 00	Trap rock and tar mixed in place	1,050
Dana	1,875 00	1,000 00	2,500 00	Maintenance	75,140
Dana	1,500 00	500 00	1,500 00	Gravel and tar	3,500
Douglas	3,750 00	2,500 00	3,750 00	Gravel and tar mixed in place	4,300
Douglas	375 00	500 00	500 00	Maintenance	14,900
Dudley	4,500 00	2,250 00	2,250 00	Gravel and tar mixed in place	4,000
Dudley	525 00	700 00	700 00	Maintenance	21,410
Dudley	937 00	625 00	625 00	Bridge repairs	—
East Brookfield	1,650 00	1,100 00	1,100 00	Gravel and tar mixed in place	2,000
East Brookfield	10,600 00	5,300 00	5,300 00	Bridge and approaches	—
East Brookfield	600 00	800 00	800 00	Maintenance	21,535
Fitchburg	15,000 00	10,000 00	10,000 00	Bituminous macadam	3,460
Gardner	7,500 00	5,000 00	5,000 00	Bituminous macadam	3,450
Grafton	1,875 00	1,250 00	1,400 00	Bituminous macadam	923
Grafton	750 00	1,000 00	1,000 00	Maintenance	3,600
Hardwick	3,900 00	2,000 00	3,200 00	Gravel and tar mixed in place	3,550
Hardwick	975 00	1,300 00	1,300 00	Maintenance	49,143
Harvard	1,125 00	1,500 00	1,500 00	Maintenance	35,060
Harvard	5,062 00	1,500 00	5,250 00	Gravel and tar mixed in place	4,100
Holden	2,250 00	1,500 00	1,500 00	Gravel and tar mixed in place	6,187
Holden	750 00	1,000 00	1,000 00	Maintenance	41,698
Hubbardston	2,250 00	1,000 00	2,000 00	Gravel and tar mixed in place	2,100
Hubbardston	1,875 00	500 00	2,000 00	Gravel and tar mixed in place	1,175
Hubbardston	1,050 00	700 00	1,400 00	Maintenance	43,180
Leicester	5,250 00	2,625 00	3,500 00	Gravel and tar mixed in place	2,300
Leicester	637 00	850 00	850 00	Maintenance	38,450
Leominster	1,400 00	7,600 00	7,600 00	Standard reinforced cement con- crete and bituminous macadam	5,355
Leominster	3,600 00	2,400 00	2,400 00	Bituminous macadam	1,000
Lunenburg	3,000 00	1,500 00	2,500 00	Gravel and tar mixed in place	2,550
Lunenburg	1,125 00	1,000 00	1,500 00	Maintenance	33,431
Mendon	2,737 00	1,100 00	2,550 00	Gravel and tar mixed in place	1,760
Mendon	1,875 00	1,000 00	1,500 00	Grading	1,750
Mendon	750 00	1,000 00	1,000 00	Maintenance	39,684
Milford	15,000 00	10,000 00	10,000 00	Stone retread	700
Milford	300 00	400 00	400 00	Bituminous macadam	3,575
Milford	2,775 00	1,850 00	1,850 00	Maintenance	31,632
Millbury	12,937 00	8,625 00	8,625 00	Bituminous macadam	1,840
Millbury	3,750 00	2,500 00	2,500 00	Bituminous concrete	3,450
Millbury	375 00	400 00	400 00	Gravel and tar mixed in place	2,268
New Braintree	2,250 00	1,500 00	1,500 00	Maintenance	7,328
New Braintree	750 00	500 00	1,000 00	Gravel and tar mixed in place	1,850
Northborough	225 00	300 00	300 00	Maintenance	41,636
Northbridge	3,750 00	2,500 00	2,500 00	Maintenance	14,182
Northbridge	2,250 00	1,500 00	1,500 00	Stone and tar mixed in place	2,035
Northbridge	375 00	500 00	500 00	Gravel and tar mixed in place	4,300
North Brookfield	3,000 00	2,000 00	2,000 00	Maintenance	33,650
North Brookfield	5,250 00	3,500 00	3,500 00	Gravel and tar mixed in place	2,500
North Brookfield	600 00	800 00	800 00	Bituminous macadam	965
North Brookfield	375 00	250 00	250 00	Maintenance	27,441
Oakham	3,750 00	2,000 00	3,000 00	Gravel and tar mixed in place	200
Oakham	975 00	1,000 00	1,300 00	Gravel and tar mixed in place	2,400
Paxton	3,375 00	1,500 00	3,000 00	Maintenance	42,506
Paxton	1,200 00	800 00	1,600 00	Gravel and tar mixed in place	2,300
Petersham	1,125 00	1,500 00	1,500 00	Maintenance	38,400
Phillipston	750 00	1,000 00	1,000 00	Maintenance	40,069
Princeton	525 00	350 00	350 00	Maintenance	47,280
Princeton	3,000 00	2,000 00	2,000 00	Gravel and tar mixed in place	2,425
Princeton	1,125 00	1,000 00	1,500 00	Gravel and tar mixed in place	1,900
Princeton	1,500 00	1,000 00	1,000 00	Maintenance	72,498
Royalston	937 00	500 00	750 00	Gravel and tar mixed in place	1,750
Royalston	937 00	500 00	750 00	Maintenance	18,800
Royalston	2,700 00	1,300 00	2,300 00	Grading	1,300
Rutland	2,250 00	1,500 00	1,500 00	Maintenance	51,960
Rutland	2,250 00	1,500 00	1,500 00	Gravel and tar mixed in place	2,600
Rutland	1,500 00	1,500 00	2,000 00	Grading	1,850
Shrewsbury	1,125 00	1,500 00	1,500 00	Maintenance	57,440
Southborough	450 00	600 00	600 00	Maintenance	34,727
Southborough	2,250 00	1,000 00	2,000 00	Maintenance	24,560
Southbridge	15,000 00	10,000 00	10,000 00	Trap rock and tar mixed in place	2,100
Southbridge	562 00	750 00	750 00	Bituminous concrete	3,345
Spencer	3,750 00	2,500 00	2,500 00	Maintenance	33,631
Spencer	750 00	1,000 00	1,000 00	Bituminous macadam	645
Sterling	4,125 00	2,000 00	3,500 00	Maintenance	44,800
				Gravel and tar mixed in place	2,950

COUNTIES AND TOWNS	CONTRIBUTIONS		COUNTY	TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
	State	Town			
Sterling	4,125 00	2,000 00	3,500 00	Gravel and tar mixed in place .	3,000
Sterling	2,175 00	2,000 00	2,900 00	Maintenance	73,237
Sturbridge	2,812 00	1,250 00	2,500 00	Gravel and tar mixed in place .	2,900
Sturbridge	281 00	250 00	375 00	Maintenance	15,224
Sutton	2,250 00	1,500 00	1,500 00	Gravel and tar mixed in place .	1,750
Sutton	2,250 00	1,500 00	1,500 00	Gravel and tar mixed in place .	1,700
Sutton	450 00	600 00	600 00	Maintenance	50,892
Templeton	4,500 00	3,000 00	3,000 00	Gravel and tar mixed in place .	5,200
Templeton	1,125 00	1,500 00	1,500 00	Maintenance	50,915
Upton	3,000 00	2,000 00	2,000 00	Gravel and tar mixed in place .	2,450
Upton	375 00	500 00	500 00	Maintenance	23,450
Uxbridge	5,250 00	4,000 00	4,000 00	Stone retreat	8,100
Uxbridge	5,250 00	4,000 00	4,000 00	Trap rock and tar mixed in place	4,100
Uxbridge	1,125 00	1,500 00	1,500 00	Maintenance	31,960
Warren	375 00	500 00	500 00	Maintenance	17,160
Webster	6,000 00	4,000 00	4,000 00	Bituminous macadam	2,650
Webster	937 00	625 00	625 00	Bridge repairs	—
Westborough	600 00	800 00	800 00	Maintenance	49,539
West Boylston	3,750 00	2,000 00	3,000 00	Gravel and tar mixed in place .	1,650
West Boylston	2,700 00	1,200 00	2,400 00	Gravel and tar mixed in place .	1,600
West Boylston	1,350 00	1,000 00	1,600 00	Maintenance	46,300
West Brookfield	2,250 00	1,000 00	2,000 00	Gravel and tar mixed in place .	1,900
West Brookfield	1,125 00	500 00	1,000 00	Gravel and tar mixed in place .	1,150
West Brookfield	300 00	400 00	400 00	Maintenance	42,470
Westminster	4,500 00	2,000 00	4,000 00	Gravel and tar mixed in place .	3,500
Westminster	1,500 00	1,000 00	2,000 00	Maintenance	55,880
Winchendon	525 00	700 00	700 00	Maintenance	19,528
Worcester	8,000 00	4,000 00	4,000 00	Bituminous macadam	1,397
Worcester	29,500 00	16,000 00	16,000 00	Bituminous macadam	4,026
				Bituminous concrete	107

EXPENDITURES FOR CONSTRUCTION OF TOWN AND COUNTY WAYS

The expenditures during the year in various Counties were:—

Barnstable	\$98,265.22	Hampden	\$154,208.48
Berkshire	156,063.18	Hampshire	64,238.87
Bristol	72,718.09	Middlesex	401,942.49
Dukes	12,591.29	Norfolk	83,036.46
Essex	204,709.42	Plymouth	106,034.68
Franklin	128,398.72	Worcester	408,135.71
Total		\$1,890,342.61	

Details of the foregoing expenditures follow:—

Barnstable County.—Barnstable, \$12,066.28; Bourne, \$6,789.09; Brewster, \$947.30; Chatham, \$8,074.20; Falmouth, \$36,383.01; Harwich, \$11,265.77; Orleans, \$11,155.97; Wellfleet, \$11,583.60.

Berkshire County.—Adams, \$8,544.11; Alford, \$892.20; Becket, \$3,935.85; Cheshire, \$3,250.87; Clarksburg, \$2,539.18; Dalton, \$9,087.57; Egremont, \$3,023.51; Florida, \$6,511.04; Gt. Barrington, \$9,253.59; Hancock, \$7,514.77; Hinsdale, \$581.75; Lanesboro, \$4,335.18; Lee, \$8,519.78; Lenox, \$6,322.38; Monterey, \$1,076.01; Mt. Washington, \$1,025.70; New Ashford, \$507.94; New Marlboro, \$6,779.43; North Adams, \$14,202.20; Otis, \$2,682.02; Peru, \$6,095.45; Pittsfield, \$18,828.36; Richmond, \$1,262.01; Sandisfield, \$3,589.87; Savoy, \$2,031.82; Sheffield, \$1,813.91; Stockbridge, \$8,948.15; Tyringham, \$2,265.14; Washington, \$3,167.52; West Stockbridge, \$4,234.24; Williamstown, \$1,006.74; Windsor, \$2,234.89.

Bristol County.—Acushnet, \$507.95; Berkley, \$10,036.25; Dartmouth, \$40,401.34; Dighton, \$7,665.81; Easton, \$5,398.48; Fairhaven, \$1,015.91; Freetown, \$1,015.91; Mansfield, \$5,098.39; Norton, \$257.37; Raynham, \$507.95; Rehoboth, \$812.73.

Dukes County.—Oak Bluffs, \$3,619.99; Tisbury, \$8,971.30.

Essex County.—Amesbury, \$5,823.64; Andover, \$17,917.22; Beverly, \$203.17; Boxford, \$3,586.51; Danvers, \$15.25; Essex, \$1,015.91; Georgetown, \$762.61; Groveland, \$2,030.11; Hamilton, \$8,372.40; Haverhill, \$30,007.43; Lawrence, \$18,692.12; Lynn, \$20,293.61; Lynnfield, \$4,591.87; Manchester, \$14,694.56; Marblehead, \$6,366.33; Merrimac, \$3,955.99; Methuen, \$10,162.48; Middleton, \$4,145.10; Newbury, \$8,939.23; North Andover, \$5,277.08; Peabody, \$18,440.22; Salisbury, \$750.28; Saugus, \$6,341.17; Swampscott, \$1,346.36; Topsfield, \$8,958.71; West Newbury, \$2,020.06.

Franklin County.—Ashfield, \$4,469.98; Charlemont, \$2,031.82; Colrain, \$2,031.82; Conway, \$2,031.82; Deerfield, \$3,047.73; Erving, \$2,031.82; Gill, \$5,418.18; Greenfield, \$11,024.78; Hawley, \$4,063.63; Heath, \$2,030.38; Leverett, \$2,031.82; Leyden, \$2,031.25; Monroe, \$2,597.14; Montague, \$1,524.16; New Salem, \$11,699.99; Northfield, \$36,908.77; Orange, \$3,047.72; Shelburne, \$3,047.73; Shutesbury, \$18,930.02; Sunderland, \$1,286.79; Warwick, \$2,031.82; Wendell, \$3,047.73; Whately, \$2,031.82.

Hampden County.—Agawam, \$10,139.74; Chester, \$1,837.69; Chicopee, \$4,799.73; East Longmeadow, \$2,913.85; Hampden, \$4,876.36; Holland, \$2,543.88; Holyoke, \$73,941.17; Longmeadow, \$6,398.07; Ludlow, \$7,540.85; Monson, \$575.68; Montgomery, \$1,133.85; Palmer, \$20,197.79; Southwick, \$5,079.54; Springfield, \$3,164.47; Tolland, \$3,805.84; West Springfield, \$2,022.38; Westfield, \$1,015.91; Wilbraham, \$2,221.68.

Hampshire County.—Amherst, \$12,759.69; Belchertown, \$9,558.14; Chesterfield, \$1,015.91; Cummington, \$4,062.65; Easthampton, \$10,338.54; Enfield, \$507.95; Goshen, \$2,031.82; Greenwich, \$1,015.91; Hadley, \$2,203.80; Northampton, \$11,296.97; Plainfield, \$2,031.82; Southampton, \$1,015.91; Ware, \$2,844.55; Westhampton, \$1,523.86; Williamsburg, \$2,031.35.

Middlesex County.—Acton, \$2,031.82; Arlington, \$5,079.54; Ashby, \$1,015.82; Ashland, \$1,270.57; Ayer, \$8,465.91; Bedford, \$807.32; Belmont, \$18,235.99; Carlisle, \$406.32; Chelmsford, \$3,046.78; Concord, \$19,915.31; Dunstable, \$1,523.86; Framingham, \$44,764.69; Holliston, \$913.98; Hopkinton, \$2,031.57; Hudson, \$15,315.24; Lexington, \$28,457.47; Lincoln, \$1,015.91; Lowell, \$5,221.15; Malden, \$57,117.50; Maynard, \$1,949.70; Medford, \$12,631.03; Melrose, \$5,196.97; Natick, \$1,826.90; Newton, \$39,038.47; Reading, \$6,095.45; Stoneham, \$5,017.24; Tyngsborough, \$2,539.77; Waltham, \$31,450.91; Watertown, \$10,750.85; Wayland, \$1,934.66; Westford, \$609.54; Wilmington, \$2,031.82; Winchester, \$34,054.84; Woburn, \$30,177.59.

Norfolk County.—Avon, \$1,178.87; Canton, \$1,219.09; Dedham, \$6,490.55; Foxborough, \$2,605.83; Franklin, \$6,114.96; Holbrook, \$1,083.64; Norfolk, \$862.85; Norwood, \$27,133.43; Randolph, \$1,046.81; Sharon, \$1,015.87; Stoughton, \$426.84; Walpole, \$14,703.59; Westwood, \$1,743.95; Weymouth, \$16,412.75; Wrentham, \$997.43.

Plymouth County.—Abington, \$6,097.19; Bridgewater, \$3,318.35; Brockton, \$22,113.22; Carver, \$3,047.73; East Bridgewater, \$1,065.38; Halifax, \$4,470.; Hull, \$22,862.44; Kingston, \$7,535.21; Marion, \$5,281.70; Marshfield, \$3,743.68; Mattapoisett, \$1,577.69; Pembroke, \$430.88; Plymouth, \$9,514.03; Rockland, \$8,455.79; West Bridgewater, \$5,638.35; Whitman, \$883.04.

Worcester County.—Ashburnham, \$1,423.64; Athol, \$4,685.90; Auburn, \$5,309.87; Barre, \$10,612.33; Berlin, \$5,010.22; Blackstone, \$9,480.86; Brookfield, \$662.19; Charlton, \$4,435.20; Clinton, \$1,114.75; Dana, \$142.96; Douglas, \$3,607.63; Dudley, \$4,921; East Brookfield, \$812.73; Fitchburg, \$18,704.58; Gardner, \$7,509.27; Grafton, \$4,121.14; Hardwick, \$213.23; Harvard, \$1,485.65; Holden, \$4,414.57; Hubbardston, \$8,556.60; Leicester, \$5,907.68; Leominster, \$13,939.76; Lunenburg, \$5,151.13; Mendon, \$2,321.65; Milford, \$9,940.59; Millbury, \$30,784.96; Millville, \$17,627.69; New Braintree, \$2,870.39; North Brookfield, \$3,073.15; Northbridge, \$5,174.59; Oakham, \$3,261.12; Paxton, \$4,271.68; Petersham, \$115,596.35; Philipston, \$1,416.27; Princeton, \$1,483.80; Rutland, \$2,727.42; Shrewsbury, \$246.93; Southborough, \$425.30; Southbridge, \$14,043.03; Spencer, \$1,915.29; Sterling, \$7,078.99; Sutton, \$3,128.25; Upton, \$493.55; Uxbridge, \$18,983.94; Warren, \$10,152.79; West Boylston, \$5,053.04; West Brookfield, \$5,643.46; Westminster, \$1,552.62; Worcester, \$16,645.97.

REPAIR AND IMPROVEMENT OF PUBLIC WAYS, EXCLUSIVE OF STATE HIGHWAYS IN CERTAIN TOWNS

(Sections 26 to 29 and 31 of Chapter 81 of the General Laws, as appearing in the
 Tercentenary Edition thereof, as amended with reference to Section 26 by
 Chapter 366 of the Acts of 1934)

Counties and Towns	Miles of Road	State Allotment	Town
<i>Barnstable County</i>			
Brewster	40	\$6,000	\$5,000
Dennis	78	11,700	7,800
Eastham	42	6,300	3,150
Mashpee	27	4,050	2,025
Sandwich	67	10,050	6,700
Truro	30	4,500	3,750
Wellfleet	36	5,400	4,500
<i>Berkshire County</i>			
Alford	19	2,850	760
Becket	58	8,700	2,320
Cheshire	42	6,300	3,150
Clarksburg	14	2,100	2,100
Egremont	32	4,800	2,400
Florida	43	6,450	3,225
Hancock	30	4,500	1,200
Hinsdale	35	5,250	2,625
Lanesborough	42	6,300	3,150
Monterey	51	7,650	2,040
Mount Washington	20	3,000	500
New Ashford	11	1,650	275
New Marlborough	85	12,750	3,400
Otis	41	6,150	1,640
Peru	37	5,550	555
Richmond	32	4,800	2,400
Sandisfield	79	11,850	1,185
Savoy	56	8,400	840
Sheffield	77	11,550	3,850
Tyringham	25	3,750	1,250
Washington	51	7,650	765
West Stockbridge	36	5,400	3,600
Windsor	65	9,750	975
<i>Bristol County</i>			
Berkley	42	6,300	2,100
Freetown	47	7,050	3,525
Norton	57	8,550	5,700
Raynham	45	6,750	4,500
Rehoboth	109	16,350	8,175
Swansea	61	9,150	9,150
<i>Dukes County</i>			
Chilmark	14	\$2,100	\$1,750
West Tisbury	13	1,950	1,950
<i>Essex County</i>			
Boxford	53	7,950	3,975
Georgetown	35	5,250	4,375
Groveland	30	4,500	4,500
Merrimac	31	4,650	3,875
Middleton	30	4,500	4,500
Newbury	38	5,700	4,750
Rowley	31	4,650	3,875
West Newbury	37	5,550	3,700

Counties and Towns	Miles of Road	Allotment	
	State	Town	
<i>Franklin County</i>			
Ashfield	80	\$12,000	\$3,200
Bernardston	40	6,000	3,000
Buckland	45	6,750	6,750
Charlemont	49	7,350	3,675
Colrain	84	12,600	4,200
Conway	72	10,800	2,880
Deerfield	75	11,250	9,375
Gill	34	5,100	2,550
Hawley	49	7,350	735
Heath	53	7,950	795
Leverett	38	5,700	1,520
Leyden	39	5,850	585
Monroe	18	2,700	2,700
New Salem	65	9,750	975
Northfield	66	9,900	4,950
Rowe	40	6,000	1,600
Shelburne	49	7,350	6,125
Shutesbury	38	5,700	950
Sunderland	34	5,100	2,550
Warwick	56	8,400	840
Wendell	48	7,200	2,400
Whately	40	6,000	3,000
<i>Hampden County</i>			
Blandford	75	11,250	1,875
Brimfield	60	9,000	2,400
Chester	68	10,200	3,400
Granville	73	10,950	5,475
Hampden	34	5,100	2,550
Holland	32	4,800	480
Monson	101	15,150	10,100
Montgomery	27	4,050	675
Southwick	50	7,500	5,000
Tolland	40	6,000	600
Wales	25	3,750	1,000
Wilbraham	43	6,450	6,450
<i>Hampshire County</i>			
Belchertown	109	16,350	4,360
Chesterfield	59	8,850	1,475
Cummington	49	7,350	1,225
Enfield	35	5,250	1,400
Goshen	28	4,200	700
Granby	48	7,200	2,400
Greenwich	39	5,850	1,560
Hadley	59	8,850	7,375
Hatfield	46	6,900	5,750
Huntington	41	6,150	3,075
Middlefield	41	6,150	615
Pelham	31	4,650	2,325
Plainfield	49	7,350	735
Prescott	39	5,850	585
Southampton	56	8,400	2,240
Westhampton	50	7,500	750
Williamsburg	44	6,600	3,300
Worthington	68	10,200	1,700
<i>Middlesex County</i>			
Acton	59	8,850	8,850
Ashby	56	8,400	2,800
Ashland	38	5,700	5,700

Counties and Towns	Miles of Road	Allotment	
		State	Town
Bedford	36	\$5,400	\$5,400
Boxborough	23	3,450	920
Burlington	35	5,250	5,250
Carlisle	42	6,300	3,150
Dracut	62	9,300	9,300
Dunstable	37	5,550	925
Holliston	50	7,500	7,500
Hopkinton	66	9,900	6,600
Littleton	42	6,300	6,300
North Reading	34	5,100	5,100
Pepperell	69	10,350	6,900
Sherborn	43	6,450	5,375
Shirley	46	6,900	4,600
Stow	43	6,450	3,225
Sudbury	64	9,600	6,400
Tewksbury	58	8,700	8,700
Townsend	70	10,500	7,000
Tyngsboro	40	6,000	4,000
Westford	85	12,750	10,625
<i>Norfolk County</i>			
Bellingham	44	6,600	6,600
Medfield	41	6,150	6,150
Medway	45	6,750	6,750
Millis	42	6,300	6,300
Norfolk	41	6,150	4,100
Plainville	32	4,800	4,000
<i>Plymouth County</i>			
Carver	67	\$10,050	\$6,700
Halifax	34	5,100	3,400
Hanson	36	5,400	5,400
Lakeville	43	6,450	3,225
Norwell	47	7,050	4,700
Pembroke	49	7,350	6,125
Plympton	30	4,500	2,250
Rochester	50	7,500	3,750
<i>Worcester County</i>			
Ashburnham	75	11,250	5,625
Barre	110	16,500	8,250
Berlin	39	5,850	2,925
Bolton	53	7,950	2,650
Boylston	40	6,000	3,000
Brookfield	37	5,550	3,700
Charlton	110	16,500	4,400
Dana	43	6,450	1,075
Douglas	70	10,500	5,250
Dudley	63	9,450	7,875
East Brookfield	19	2,850	2,375
Grafton	68	10,200	10,200
Hardwick	96	14,400	4,800
Harvard	56	8,400	5,600
Holden	77	11,550	7,700
Hubbardston	75	11,250	1,875
Lancaster	58	8,700	7,250
Leicester	66	9,900	8,250
Lunenburg	66	9,900	4,950
Mendon	36	5,400	3,600
Millville	16	2,400	2,400
New Braintree	49	7,350	1,225

Counties and Towns	Miles of Road	Allotment	
		State	Town
North Brookfield	69	\$10,350	\$6,900
Northborough	47	7,050	5,875
Oakham	45	6,750	1,125
Oxford	66	9,900	8,250
Paxton	29	4,350	2,175
Petersham	70	10,500	3,500
Phillipston	41	6,150	1,025
Princeton	72	10,800	2,880
Royalston	67	10,050	1,675
Rutland	68	10,200	3,400
Southborough	46	6,900	6,900
Spencer	100	15,000	12,500
Sterling	73	10,950	5,475
Sturbridge	70	10,500	3,500
Sutton	84	12,600	4,200
Templeton	63	9,450	7,875
Upton	60	9,000	4,500
Warren	71	10,650	7,100
West Boylston	37	5,550	5,550
West Brookfield	53	7,950	3,975
Westminster	78	11,700	3,900

EXPENDITURES FOR REPAIR AND IMPROVEMENT OF PUBLIC WAYS

The expenditures during the year in various Counties were:—

Barnstable	\$55,315.26	Hampden	\$100,124.90
Berkshire	154,606.60	Hampshire	143,058.52
Bristol	58,537.28	Middlesex	178,044.10
Dukes	4,198.54	Norfolk	61,019.28
Essex	48,126.93	Plymouth	57,027.35
Franklin	177,983.51	Worcester	432,015.10
Total		\$1,470,057.37	

Details of the foregoing expenditures follow:—

Barnstable County.—Brewster, \$6,291.54; Dennis, \$14,269.47; Eastham, \$7,126.09; Mashpee, \$4,492.72; Sandwich, \$10,604.27; Truro, \$5,149.98; Wellfleet, \$7,381.19.

Berkshire County.—Alford, \$3,183.52; Becket, \$10,347.64; Cheshire, \$6,319.10; Clarksburg, \$2,295.61; Egremont, \$5,040.72; Florida, \$7,026.41; Hancock, \$4,553.94; Hinsdale, \$5,798.99; Lanesborough, \$6,762.53; Monterey, \$7,138.36; Mount Washington, \$3,502.50; New Ashford, \$1,405.55; New Marlborough, \$13,961.78; Otis, \$6,095.44; Peru, \$5,483.92; Richmond, \$5,321.99; Sandisfield, \$12,493.36; Savoy, \$8,734.30; Sheffield, \$11,837.11; Tyringham, \$4,151.12; Washington, \$6,969.43; West Stockbridge, \$5,707.66; Windsor, \$10,475.62.

Bristol County.—Berkley, \$6,810.43; Freetown, \$7,621.20; Norton, \$9,242.73; Raynham, \$7,296.89; Rehoboth, \$17,674.69; Swansea, \$9,891.34.

Dukes County.—Chilmark, \$2,150; West Tisbury, \$2,048.54.

Essex County.—Boxford, \$9,898.32; Georgetown, \$5,675.36; Groveland, \$4,923.70; Merrimac, \$5,026.75; Middleton, \$4,953.01; Newbury, \$5,904.20; Rowley, \$5,629.96; West Newbury, \$6,115.63.

Franklin County.—Ashfield, \$12,945.22; Bernardston, \$6,485.42; Buckland, \$7,242.81; Charlemont, \$7,918.48; Colrain, \$13,323.58; Conway, \$12,729.02; Deerfield, \$11,945.28; Gill, \$5,269.98; Hawley, \$8,188.73; Heath, \$8,594.11; Leverett, \$5,891.56; Leyden, \$6,351; Monroe, \$2,943.14; New Salem, \$9,675.13; Northfield, \$10,512.22; Rowe, \$6,486.12; Shelburne, \$8,105.19; Shutesbury, \$6,107.77; Sunderland, \$4,513.26; Warwick, \$8,945.45; Wendell, \$7,323.92; Whately, \$6,486.12.

Hampden County.—Blandford, \$12,134.58; Brimfield, \$9,127.97; Chester, \$7,892.80; Granville, \$11,836.77; Hampden, \$5,188.90; Holland, \$6,462.27; Montgomery, \$3,607.86; Monson, \$17,793.85; Southwick, \$8,188.73; Tolland, \$6,833.06; Wales, \$4,058.50; Wilbraham, \$6,999.61.

Hampshire County.—Belchertown, \$18,026.02; Chesterfield, \$9,567.03; Cummington, \$7,945.47; Enfield, \$5,026.75; Goshen, \$4,540.29; Granby, \$7,782.62; Greenwich, \$6,459.10; Hadley, \$9,567.03; Hatfield, \$7,540.12; Huntington, \$6,280.99; Middlefield, \$7,132.96; Pelham, \$5,125.32; Plainfield, \$7,296.89; Prescott, \$6,242.89; Southampton, \$8,837.34; Westhampton, \$8,107.66; Williamsburg, \$7,134.53; Worthington, \$10,445.51.

Middlesex County.—Acton, \$9,567.03; Ashby, \$9,080.57; Ashland, \$6,161.82; Bedford, \$5,837.51; Boxborough, \$3,729.52; Burlington, \$5,675.36; Carlisle, \$6,810.43; Dracut, \$10,053.49; Dunstable, \$5,999.66; Holliston, \$8,107.66; Hopkinton, \$10,702.11; Littleton, \$6,810.43; North Reading, \$5,513.21; Pepperell, \$11,188.56; Sherborn, \$6,972.58; Shirley, \$7,459.04; Stow, \$6,972.58; Sudbury, \$10,377.80; Tewksbury, \$9,404.88; Townsend, \$11,350.72; Tyngsborough, \$6,486.13; Westford, \$13,783.01.

Norfolk County.—Bellingham, \$11,809.75; Medfield, \$9,416.82; Medway, \$11,679.13; Millis, \$10,989.84; Norfolk, \$9,652.58; Plainville, \$7,471.16.

Plymouth County.—Carver, \$11,192.97; Halifax, \$6,093.42; Hanson, \$5,467.67; Lakeville, \$6,972.56; Norwell, \$6,959.03; Pembroke, \$7,182.13; Plympton, \$5,051.91; Rochester, \$8,107.66.

Worcester County.—Ashburnham, \$11,989.65; Barre, \$18,335.90; Berlin, \$6,717.18; Bolton, \$10,494.42; Boylston, \$5,884.68; Brookfield, \$6,083.01; Charlton, \$18,645.82; Dana, \$6,972.58; Douglas, \$11,360.80; Dudley, \$11,463.72; East Brookfield, \$3,500.79; Grafton, \$11,024.59; Hardwick, \$17,833.67; Harvard, \$9,080.57; Holden, \$11,312.49; Hubbardston, \$12,409.75; Lancaster, \$8,766.02; Leicester, \$10,288.22; Lunenburg, \$10,286.29; Mendon, \$5,701.44; Millville, \$2,560; New Braintree, \$7,728.15; North Brookfield, \$13,711.43; Northborough, \$6,953.64; Oakham, \$8,689.75; Oxford, \$10,766.75; Paxton, \$4,145.55; Petersham, \$10,835.50; Phillipston, \$7,633.81; Princeton, \$9,994.62; Royalston, \$10,864.26; Rutland, \$11,232.65; Southborough, \$7,433.33; Spencer, \$18,059.42; Sterling, \$12,483.80; Sturbridge, \$11,244.35; Sutton, \$12,916.51; Templeton, \$8,765.80; Upton, \$10,084.47; Warren, \$11,546.47; West Boylston, \$5,222.24; West Brookfield, \$8,124.22; Westminster, \$12,866.79.

THE REGULATION OF ADVERTISING SIGNS AND DEVICES WITHIN THE PUBLIC VIEW (Sections 29-33, Chapter 93, General Laws, as amended)

In accordance with the provisions of sections 29 to 33 inclusive, chapter 93, General Laws, as amended by chapters 85, 237, 334 and 490, Acts of 1924, providing for the control of billboards and other advertising devices on public ways or on private property within public view of any highway, public park or reservation, the Department adopted on Jan. 24, 1924, certain new rules and regulations, superseding all former issues; and these have continued in force during the present year.

Applications, Licenses and Permits.—Licenses were granted to 22 individuals and others to engage in the business of advertising in the Commonwealth by the use of outdoor signs.

Of 909 applications received for permits for the erection of advertising signs, 841 permits were granted for the year, while 2,500 applications, mostly injunction ones, are being held for definite action by this Department. In addition, over 200 individual advertisers were granted permits mainly consisting of a sole application. The greater part of these individual applications were obtained at the information desk maintained in the office of this Division for the purpose of educating and explaining the various provisions of the law.

Of 3,100 renewal applications sent to those whose permits were to expire June 30, 1937, 2,892 were returned to the Department requesting renewal; and on account of the advertisers failing to renew, 93 permits were cancelled. The number of renewal applications approved was 2,791. The total number of permits in force November 30, 1936 was 3,402.

Receipts and Expenditures.—The total receipts for the year ending November 30, 1936, were \$26,023.17 and the expenditures were \$22,535.15.

The Removal of Signs.—The "Sign Patrol" consisting of small trucks completely equipped for the work, have removed 70,000 signs during the year in addition to 6,000 removed by other agents of the Department, under authority of section 30A, Chapter 93, General Laws, from within the highways and from private property.

Hearings.—Hearings were given to officials of Athol, Hull, Lexington, Milton, Walpole, Brookline, Medford, Stoneham, Braintree, Weymouth.

REGISTRY OF MOTOR VEHICLES

The 1936 statistics continue to show increases in the various classes of applications handled and it should be noted that these figures exceed the total for 1929, making the figures for this year the high figure for all times thus far in the history of the Registry. Particularly noticeable in the increased registrations throughout the year is the number of reissues which, for the most part, means a new car registered for each reissue. As the number of applications handled increases, there is a corresponding increase in inquiries by telephone, letter, and at our counters with regard to the information contained in the records.

The inspection work and other activities of the inspectors, all tending towards highway safety, followed the same lines in 1936 that were inaugurated in 1935. The work of the motor vehicle men was greatly aided by the continued hearty co-operation of the police, both state and local. The various highway safety committees continued their work in a co-operative manner.

The teletype installations, linking the branch offices with the Boston office, were extended by the additional installation of machines in the Framingham and Fitchburg offices.

A new branch office was opened in Holyoke on October 16th.

A few of the outstanding figures for the year, together with a comparison with the previous year, follow:—

	1935	1936
Motor vehicle certificates of registration issued	968,553	1,034,803
Compulsory insurance cancellation notices received	79,401	69,126
Licenses to operate issued	1,077,880	1,128,516
Examinations of applicants for licenses	82,136	98,997
Licenses and registrations revoked and suspended	52,317	52,705
Licenses revoked for driving under influence of liquor	6,264	6,486
Total number of applications handled	2,125,898	2,253,405
Gross receipts from fees	\$6,310,424.28	\$6,765,751.86

REGISTRATIONS OF PASSENGER CARS, COMMERCIAL VEHICLES, AND MOTOR CYCLES

The following registration figures show a 7.27% increase in passenger registrations and a 3.7% increase in commercial registrations over the previous year, while the motor cycle registrations showed a decrease of 4.29% for the same period.

	1905	1915	1925	1935	1936
Passenger cars	4,889	90,580	663,858	852,934	915,010
Commercial vehicles	—	12,053	100,480	114,244	118,477
Motor cycles	553	9,520	10,333	1,375	1,316
Totals	5,442	112,153	774,671	968,553	1,034,803

EXAMINATIONS FOR LICENSES

The system of examining new operators was not changed in any respect during the year 1936. For the first time for a number of years there was a sizeable increase in the number of persons examined, this increase being in proportion to the number of increased registrations and the general increase in applications handled at the Registry. The following figures show the work accomplished at the fifty-five examining points in the State.

	1935	1936
Operators passed	74,598	91,065 ¹
Operators unfit	7,058	7,727 ²
Restriction removal, passed	1,244	848
Restriction removal, unfit	125	119
"Competency," passed	212	544
"Competency," unfit	23	39
Total examinations	83,260	100,342

¹ This increase is partly due to the special "competency" test which operators over 65 years of age were required to pass before their licenses were renewed, and included in this item are 4,731 of these tests.

² See previous foot-note. This figure includes 106 "competency 65" cases.

BRANCH OFFICES

A new office was opened in Holyoke on October 16, and the installation of the teletype machine was extended to the Fitchburg and Framingham offices. This makes nineteen branch offices of the Registry, excluding an office at Oak Bluffs, on Martha's Vineyard. Here the inspector maintains an office, or at least provides facilities offered at other branch offices of the Registry, and periodically travels to Nantucket Island for the purpose of extending Registry branch office facilities to the public there. Of the nineteen branch offices, twelve are equipped with teletype and at these teletype-equipped branches the officer in charge, together with his force of inspectors, examiners and clerks, is able to render to the public in the vicinity practically every service that is rendered at the main office in Boston. The few smaller branches not equipped with teletype render a slightly limited service in their vicinity but, by means of telephone to the nearest teletype-equipped branch, are in a position to offer practically equivalent service to the public in their area.

The following figures, prepared in approximate round numbers rather than from an actual count or from detailed records, give a fairly accurate idea of the manner and amount of the work handled by the Registry and the proportion in which it is distributed among the various branch offices and the central office at Boston.

APPROXIMATE DISTRIBUTION OF REGISTRATIONS, LICENSES, ETC.

	Regis- trations	First Licenses	License Renewals	Miscel- laneous	Totals
Boston:					
Counter . . .	192,000	—	174,000	92,000	458,000
Mail . . .	166,000	—	401,000	13,000	580,000
Examination . . .	—	22,000	—	3,000	25,000
Pittsfield . . .	23,000	3,500	20,000	8,000	54,500
Springfield . . .	53,000	7,500	60,000	24,000	144,500
Greenfield . . .	12,000	1,500	11,000	5,000	29,500
Northampton . . .	12,000	2,000	12,000	5,000	31,000
Worcester . . .	54,000	7,500	53,000	23,000	137,500
Fitchburg . . .	20,000	3,000	18,000	8,000	49,000
Framingham . . .	21,000	3,000	17,000	9,000	50,000
Lawrence . . .	21,000	3,000	26,000	7,000	57,000
Lowell . . .	22,000	4,000	24,000	7,500	57,500
Fall River . . .	24,000	5,000	24,000	9,000	62,000
New Bedford . . .	22,000	3,000	28,000	9,000	62,000
Lynn . . .	45,000	7,000	47,000	18,000	117,000
Quincy . . .	32,000	6,500	38,000	14,000	90,500
Brockton . . .	39,000	3,500	35,000	17,000	94,500
Hyannis* . . .	13,000	2,000	8,000	4,500	27,500
Haverhill . . .	13,000	2,300	13,000	5,000	33,300
Holyoke . . .	4,000	200	1,000	500	5,700
Malden . . .	19,000	2,500	14,000	7,000	42,500
Waltham . . .	18,000	3,000	13,000	7,000	41,000
	825,000 ¹	92,000	1,037,000	295,500 ²	2,249,500

*Includes Oak Bluffs and Nantucket.

¹ Does not include reissues (see Miscellaneous).

² This figure includes approximately 216,000 number plate reissues.

COMPULSORY MOTOR VEHICLE LIABILITY INSURANCE

The following figures show the volume of papers received and notices mailed in connection with the carrying out of the law regarding compulsory motor vehicle liability insurance:

Causes for Cancellation of Policies:	1935	1936
For non-payment of premiums	61,413	55,978
For other reasons	17,988	13,148
Total	79,401	69,126

Origin of requests for Cancellation of Policies:

Insurance companies	49,204	46,660
Finance companies	30,197	22,466
Total	79,401	69,126

Disposition of applications for cancellations:

Replacement certificates, adjusting cancellations	6,524	5,803
Reinstatements, adjusting cancellations	43,394	38,834
Sets of plates returned before effective date of cancellation	5,080	4,495
Revocations	24,403	19,994
Total	79,401	69,126

Return of Plates:

Returned promptly after revocation	13,503	11,164
By Police	6,510	4,950
Not returned	4,390	3,880
Total revocations	24,403	19,994

PROPERTY DAMAGE

Under provisions of Section 22A of Chapter 90, General Laws, the Registrar may, upon receipt of evidence satisfactory to him, suspend the license of any operator who has failed to satisfy a judgment rendered against him after sixty days in any case in which such operator is the defendant in an action brought to recover damages for injuries to property arising out of the use, operation or maintenance on the ways of the Commonwealth of a motor vehicle or trailer.

The following figures indicate the number of cases in which successful plaintiffs availed themselves of the additional facilities provided in the law for recovering damages and the action taken thereon.

	1935	1936
Complaints received	560	600
Releases received, no action being necessary	141	158
Licenses or right to operate suspended	419	442
Licenses or right to operate reinstated after suspension	206	255

AIRCRAFT

The first fiscal report of the Aviation Section since the operation of the new Uniform Aeronautical Code shows an increase in pilots operating in the Commonwealth. This is due partly to the requirement that student pilots as well as private and commercial flyers must be registered.

All resident airmen and owners and or operators of all aircraft are required to register their federal licenses with the Aviation Section. Applications are required and certificates are issued without the payment of fee.

The slight drop in the total number of flying accidents and the same number of ground accidents as the previous year is very encouraging. The increase in fatal and personal injury accidents is to be expected, however, considering the large increase in flying personnel. Two of the three fatal accidents were caused through fault of the pilots and one through inexperience. The personal injuries were all of a very minor nature. We believe these figures show that the new modern aircraft with its facilities has become a safe means of travel.

Air traffic rules and regulations for aircraft and airports have been brought up to date. A rigid enforcement of these rules and a close supervision of all airports, aircraft and airmen is maintained at all times.

The air-marking program has shown great progress with 176 new air-markers now in the Commonwealth as compared with 11 of the previous year. There is no doubt that these markers will prevent a great many future accidents.

The non-paid board of aeronautical experts required by law has been active in co-ordinating aviation interests and establishing policies.

The following figures summarize the work of the Aviation Section:

	1935	1936
Pilots registered	257	938
Aircraft registered	235	216
Duplicates issued	2	4
Fees received	\$142	0 ¹
Suspensions of pilots' and aircraft rights	20	21
Aircraft grounded	61	66
Reinstatements of rights and groundings	58	40
Court prosecutions	2	0
Regulations promulgated	0	2
Surveys of fields	25	22
Plans of buildings drawn for airmarking	17	178
Airmarkers completed under State promotion	11	176
Reports made by aircraft inspectors	1,051	2,086
Airplane accidents	48	46
	1935	1936
Fatal accidents	0	3
Personal injury accidents	8	9
No injury accidents	40	34
Persons killed in airplane accidents	0	4
Persons injured in airplane accidents	16	17
Ground accidents	7	7
Fatal accidents	1	0
Personal injury accidents	2	1
No injury accidents	4	5
Unknown accidents	0	1
Persons killed in ground accidents	1	0
Persons injured in ground accidents	2	1

¹ No fees paid to State for registration with State of federal licenses for aircraft and airmen.

INSPECTION OF MOTOR VEHICLE EQUIPMENT

In accordance with rules and regulations of the Registrar of Motor Vehicles, made under authority of General Laws, Chapter 90, Section 7A, two inspections of all motor vehicles registered and operated in the Commonwealth were conducted at Official Inspection Stations designated by the Registrar.

The great majority of the inspection stations have now been operating under the supervision of the Equipment Section for the past six years, and the annual improvement in the manner in which the inspections were conducted was noticeable. The work was, in the main, conducted honestly and efficiently, with fewer complaints than during any previous inspection.

Approximately 700,000 pleasure cars, trucks, trailers and buses were inspected during the May inspection period, and 800,000 during the September inspection. The results may be summarized as follows:

	May Per Cent	September Per Cent
O. K.	40	30
Foot Brake	20	17
Emergency Brake	12	11
Lights	43	58
Horn	3	3
Muffler	1.4	1.2
Steering Gear	3	2.6
Windshield Cleaner	3.4	3.2
Number Plates	2	.9

Immediately after each inspection period, inspectors of this Department, with the co-operation of state and local police, stopped all cars observed being operated which did not display the official windshield sticker. As a result of this check-up, 1,940 cars were reported as not having been inspected during the May period, and 1,894 during the September period. Disposition of these was made as follows:

Warning notices mailed	2,939
Complaints filed	654
Registrations suspended	251

Because of the semi-official nature of their work, inspection stations were held to a very high standard of honesty and efficiency and were cancelled or suspended upon even slight, though certain, evidence that they were not conducting inspections properly. During the May inspection, 52 stations were cancelled or suspended, and during the September inspection, 39.

School Bus Inspections

As required by the School Bus Act, Chapter 271 of the Acts of 1932, the Equipment Section supervised the inspection of all school buses operated in Massachusetts under contract with cities or towns, or owned by cities or towns. These inspections were made at Official Inspection Stations on instructions issued by the Department, and the results of their inspections were reported to the Equipment Section which then passed upon the approval or disapproval of each bus so examined. Inspections were held during the first full week of January, March, May, September and November. In each case, about 921 buses were submitted for inspection. The improvement in the general condition of school buses used throughout the state and their safety condition noted in previous reports was continued during the present year. Many new buses were put in operation so that, at the present time, there are in operation very few of the old buses which were being used previous to the enactment of the School Bus Act.

Brakes, Lights and Overloads

The Registrar's policy, referred to in the last report, of reducing investigating and examining work to a minimum so as to release the services of inspectors for the more important work of preventing accidents on the highway rather than investigating them when they have occurred, was continued. The full-time service of approximately 60 men was used for enforcement and equipment work. This enforcement on the road, directed particularly to dangerous operation and defective motor vehicle equipment, especially brakes, in conjunction with the two equipment inspections held during the year, was undoubtedly effective in bringing about a reduction in the accident rate. While there was an increase of 3% in the number of fatalities, the number of cars registered per person killed increased from 1,205, in 1935, to 1,266, in 1936. The number of persons injured dropped from 48,421, in 1935, to 45,462, in 1936, a decrease of 15%.

In addition to their duties in connection with the periodic inspection of motor vehicles and school buses, including the supervision of the work of over 2,000 Official Inspection Stations, the inspectors assigned to the Equipment Section did considerable enforcement and equipment work which may be summarized as follows: Equipment inspectors submitted 6,000 blue card complaints of improper and dangerous operation which were referred to the Registrar for action. They also submitted 11,720 green card complaints of defective equipment. Disposition of these cases was as follows:

Number of suspensions for defective brakes	3,662
" " " " defective lights	603
" " " " miscellaneous defective equipment	594
Notices to correct defective equipment and to report	1,606
Notices to replace defective windshield and to report	1,042
Complaint cards on defective equipment filed	334

In addition to reporting on blue and green cards, Equipment inspectors issued 29,053 tags for defective brakes, and 56,976 tags for defective lights. State and

local police issued 56,807 tags for defective lighting equipment, in co-operation with this Department.

Headlamps, Tail Lamps and Reflex Reflectors

One new headlamp was approved during the present year; also, 5 tail lamps and 5 reflex reflectors.

Directional Signals

During the present year, Rules and Regulations of the Department of Public Works became effective requiring directional signals on certain commercial motor vehicles operated on state highways. Thirty-five directional signal systems were examined and tested by this Department, of which 11 were approved.

The authority of the Department to promulgate such regulations was questioned by many of the commercial vehicle operators affected, and an action was begun which resulted in the legal questions involved being brought to the attention of the full bench of the Supreme Court which now has the whole question under advisement.

MOTOR VEHICLE DEATHS, INJURIES, COLLISIONS

Deaths caused by motor vehicles in 1936 numbered 817, an increase of 22 or 2.7% as compared with the record of the previous year. A comparative table of classified fatalities, injuries and collisions in the year 1935 and 1936 is as follows:

Motor Vehicle Accidents to Persons

	Persons Killed		Persons Injured	
	1935	1936	1935	1936
Pedestrians by autos	471	462	14,306	12,165
Pedestrians by motorcycles	0	0	22	31
Pedestrians near street cars	3	1	49	11
Occupants of autos	265	302	31,750	31,196
Occupants of autos at R. R. crossings	14	13	36	19
Occupants of motorcycles	12	6	161	180
Bicycle Riders	7	24	981	1,098
Occupants horse-drawn vehicles	3	0	148	104
Coasters on sleds	17	7	837	540
Coasters on wheels	3	2	131	118
Totals	795	817	48,421	45,462
	Children Killed		Children Injured	
	1935	1936	1935	1936
Boys	91	94	6,597	5,585
Girls	36	33	3,468	3,090
Totals	127	127	10,065	8,675

Number of Collisions

	1935	1936
Collision with pedestrian	14,619	13,511
Collision with automobile	20,143	20,215
Collision with horse-drawn vehicle	197	153
Collision with railroad train	29	27
Collision with street car	305	279
Collision with fixed object	1,961	1,860
Collision with bicycle	997	1,350
Non-Collision (overturn)	754	650
Collision with motorcycle	187	199
Collision with sled	740	553
Collision with animal	70	76
Coaster on wheels	136	137
Totals	40,138	39,010

In the daytime	24,081	23,533
After dark	16,057	15,477
Totals	40,138	39,010

ACCIDENT REPORT LETTERS

As provided by Section 26, chapter 90, General Laws, every operator of a motor vehicle in any manner involved in an accident in which any person is killed or injured is required to report in writing to the Registrar. The number of these formal accident reports received from operators in 1936 was 41,605 as compared with 44,624 received in 1935. Under the requirements of section 29, chapter 90, General Laws, 17,498 similar reports of accidents were received from police departments throughout the State in 1936 as against 18,304 received in 1935. In addition, in connection with this reporting of accidents by operators during the year 1936, there were received 9,189 letters and complaints reporting faulty operating, as compared with 10,369 such letters in 1935.

COMPARATIVE STATEMENT OF YEARLY REGISTRATIONS, LICENSES, DEATHS,
INJURIES, REVOCATIONS AND SUSPENSIONS

Year	Automobiles Registered	Motor- Cycles Registered	Total Regis- trations	Number of Persons Killed	Number of Persons Injured	Licenses Issued	Total Sus- pensions and Revo- cations	For Operat- ing Under Influence of Liquor
1910	31,360	3,358	34,718	77	963	41,259	283	22
1911	38,907	3,658	42,565	110	1,248	51,950	360	14
1912	50,132	5,034	55,166	142	1,962	66,645	546	56
1913	62,660	7,127	69,787	188	2,923	81,034	608	87
1914	77,246	8,161	85,407	229	4,010	99,532	8,580	131
1915	102,633	9,520	112,153	294	6,197	133,935	1,153	202
1916	136,809	10,713	147,522	315	9,131	171,596	1,396	320
1917	174,274	11,065	185,339	438	7,282	214,229	1,831	485
1918	193,497	12,862	206,359	499	8,598	235,140	2,343	553
1919	247,183	13,698	260,881	582	16,287	297,968	2,156	554
1920	304,538	15,142	319,680	481	21,182	261,539	2,944	888
1921	360,731	12,058	372,790	544	11,487	380,519	4,899	1,508
1922	449,838	11,675	461,513	522	15,277	444,173	8,369	2,460
1923	566,150	11,733	577,883	578	16,217	536,819	11,613	3,333
1924	672,315	10,778	683,093	709	19,579	620,439	14,154	4,395
1925	764,338	10,333	774,671	755	25,736	698,378	16,249	4,654
1926	826,224	9,215	835,439	705	25,351	763,951	18,705	4,863
1927	819,703	7,245	826,948	693	31,721	814,094	31,252	4,983
1928	883,595	6,656	890,251	715	42,201	870,160	40,814	5,071
1929	1,018,904	6,168	1,025,072	777	46,111	944,338	53,133	5,381
1930	1,008,476	4,642	1,013,118	795	44,279	982,795	52,954	5,052
1931	1,006,808	3,068	1,009,876	793	48,837	1,024,304	63,841	5,535
1932	921,909	1,661	923,570	768	47,658	1,014,635	73,511	4,824
1933	930,493	1,023	931,516	769	48,249	1,022,662	78,431	4,274
1934	944,713	1,375	945,488	921	53,055	1,053,527	52,505	5,717
1935	967,178	1,375	968,553	795	48,421	1,077,880	52,717	6,264
1936	1,033,487	1,316	1,034,803	817	45,462	1,128,516	52,705	6,486

INVESTIGATIONS AND PROSECUTIONS BY INSPECTORS

Investigations were made under the direction of the Chief Inspector relative to fatal and non-fatal accidents, violations of the laws concerning brakes and headlights, inspection of garages, miscellaneous complaints, and the prosecution of motorists in court. The table below shows the wide range of these activities of the inspectors.

Classification of Reports

	1935	1936
Accidents, fatal	778	782
Accidents, non-fatal	5,279	1,525
General reputation	6,246	1,598
Miscellaneous	13,386	6,389
Totals	25,689	10,294
Complaints filed	15,384	28,649
Garages	13,829	8,274
Headlights	51,872	93,290
Prosecutions	839	778
Amount of fines	\$26,870	\$25,687

Revocations and Suspensions

	1935	1936
Licenses suspended	12,646	15,314
Licenses revoked	4,452	3,707
Rights suspended or revoked	5,587	5,788
Certificates suspended	2,966	5,660
Certificates revoked	24,561	20,126
Certificates and licenses suspended	26	42
Certificates and licenses revoked	1,849	1,369
Certificates revoked and rights suspended	124	97
Rights in Massachusetts suspended	106	602
Totals	52,317	52,705
Resulting from investigations	13,171	14,498
Resulting from court convictions	12,394	12,852
Resulting from police complaints	1,969	3,033
Resulting from judges' complaints	3	3
Resulting from State Police complaints	377	2,333
Resulting from Insurance cancellations	24,403	19,986
Totals	52,317	52,705

Character of Offenses

	1935	1936
Reckless and endangering life	1,774	1,590
Liquor convictions	4,917	4,648
Going away after accidents	385	500
Without authority	596	545
Racing	0	6
Improper person	5,394	5,181
Improper person, liquor	1,347	1,838
Improper operation	5,858	4,028
Two overspeeds	111	531
Three overspeeds	3	13
Insurance cancellations	24,403	19,986
Insurance convictions	352	380
Improper equipment, miscellaneous	513	594
Improper equipment, lights	357	603
Improper equipment, brakes	1,000	3,662
Failure to display stickers	0	0
Fatal accidents	743	781
Property damage cases	388	442
Other offenses	193	95
New parking violations	3,447	3,717
Overloading trucks	19	0
Sixty milers	495	959
Fifty milers	0	2,413
Several minor complaints	22	186
Pedestrian failure	0	7
Totals	52,317	52,705
Court recommendations adopted:		
Reckless and endangering	19	45
Going away after accidents	2	3
Liquor	0	1
Allowing improper person to operate	1	0
Insurance convictions	0	1
Totals	22	50
Persons whose licenses were suspended or revoked and who had to pass examination in order to have them returned	4,620	5,086

ANALYSIS OF COURT ABSTRACTS RECEIVED

	1935	1936
Number of courts forwarding abstracts	95	95
Total abstracts received	51,695	54,311
Number of abstracts recording convictions	29,899	35,575

Offenses

(Analysis of convictions, not including appeals)

	1935	1936
Overspeeding	9,399	11,470
Reckless driving	43	8
Operating under influence of liquor	3,940	4,314
Using auto without authority	762	753
Endangering lives	1,976	2,381
Not stopping after causing injury	761	842
Without license	2,566	2,555
Without registration certificate	417	475
Unregistered vehicle	374	481
Improper display or no register number	198	123
Refusing to stop on signal	394	259
Unlighted lamps	287	287
Not signalling	3	0
Dazzling lights	7	0
Operating within 8 feet of street car	67	59
Violation of Metropolitan Park rules	94	112
Operating after suspension or revocation of license	496	596
Larceny	183	108
Manslaughter	4	0
Miscellaneous	799	1,347
Lenses not approved	0	4
No reflector	6	0
Racing	1	6
Operating after registration certificates revoked	3	7
No rear light	57	41
Not displaying lights	296	88
Passing red light	347	510
Improper lights	80	91
Brakes not as required by law	263	198
Violation of insurance law	401	484
Not slowing down approaching pedestrian	39	39
Not slowing down at intersecting way	3,859	6,593
Violation of law of road	1,657	1,198
Perjury—Making false statements on license application, falsely impersonating or conspiring to obtain a license	22	12
Loaning a license to another	11	11
Allowing intoxicated person to operate	10	9
No windshield cleaner	1	0
Attempted larceny	13	29
Allowing improper person to operate	73	85
Totals	29,899	35,575

USED CAR SECTION

(Motor Vehicle Identification)

The following is a résumé of the work accomplished by the Used Car Section which indexes, under engine numbers, all motor vehicles registered and reported stolen, and checks reports of sales of used cars against the stolen-vehicle records. Dealers' and repairmen's plates and registration certificates are issued by this section.

The work of the section is summarized in the following tables:—

<i>Dealers</i>		1935	1936
Total number of first class dealers reporting		1,187	1,225
Total number of second and third class dealers reporting		559	615
Total number making reports to this office		1,746	1,840
<i>Reports</i>			
Approximate number of notices of intended sales received daily		302	280
Approximate number of dealers' reports received daily		1,107	1,382
<i>Motor Vehicles Stolen</i>			
Number stolen in Boston		4,479	3,297
Number stolen in Massachusetts (including Boston)		6,022	7,191
Number reported stolen from various sources throughout the country, including Massachusetts		20,245	21,179
Number of motor vehicles recovered through information furnished by this office		283	290
<i>Engine and Serial Numbers</i>			
Engine numbers assigned to cars		13	5
Certificates issued authorizing the replacement of engine numbers		379	338
Certificates issued authorizing the replacement of serial numbers		167	191
Certificates issued authorizing the replacement of both engine and serial numbers		20	6
Total number of authorization certificates issued		566	535

EASTERN CONFERENCE OF MOTOR VEHICLE ADMINISTRATORS

The department was represented at each of the two meetings held during the year.

The first meeting was held in Philadelphia, Pa., on May 11, 12 and 13, and the second, in Burlington, Vt., on October 1 and 2. Prepared studies were presented by suitable speakers and appropriate action taken on such matters as highway lighting, highway safety in general, headlighting, brakes, house trailers, directional signals, enforcement, compulsory insurance and financial responsibility, speed limits, examination of drivers, safety education, accident statistics, federal control, motor vehicle inspection, highway patrols and other incidental and related matters.

The action of the Eastern Conference places no legal restriction, of course, on the acts of the state administrator. The information and experiences made available to the members and the general discussion and exchange of ideas are, however, of great benefit to each member state. Reciprocal relations, too, are improved by the better understanding of the various problems in the different states.

ANALYSIS OF RECEIPTS

The fees received for the year 1936, together with the number of certificates of registration issued in each classification and the number of licenses granted, etc., are shown in the following table:

Certificates of Registration:

Passenger cars (including taxicabs)	910,196	\$2,573,889	98
Commercial cars	118,477	1,485,111	45
Busses	4,814	121,189	60
Trailers	10,405	19,468	50
Motor cycles	1,316	1,770	00
Manufacturers or Dealers (including repairers)	2,741	8,223	00
Manufacturers or Dealers additional cars (including repairers)	19,668	\$58,993	00

Licenses to operate:

Original licenses	91,190	182,380 00
Renewal licenses	1,037,326	2,074,441 00
Examinations	75,249	\$150,498 00
Re-examinations	23,748	23,748 00

Total examinations	98,997	174,246 00
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Copies of certificates and licenses furnished	37,746	37,742 75
Duplicate number plates furnished	11,719	11,718 75
Miscellaneous receipts, process fees, etc.		16,577 83

Total amount of fees	\$6,765,751 86
Motor Vehicle fees rebated (deducted)	70,101 31

Net fees	\$6,695,650 55
Court fines received by the Treasurer and Receiver-General ¹	12,079 74

Total receipts (not including gasoline tax ²) credited Highway Fund Account, 1936	\$6,707,730 29
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¹ Beginning January 1, 1935, due to an amendment of the law (Acts of 1934, Chap. 364) the motor vehicle fines are turned over directly to the various cities and towns.

² Receipts from the gasoline tax are credited to the Highway Fund but are collected through the office of the Commissioner of Corporations and Taxation.

EXPENSES OF THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles for the year 1936 was \$1,495,985.41 which was 22.3% of the net fees collected. This cost, deducted from the receipts for the year, left the sum of \$5,213,293.78 available for legislative appropriation for highway work.

ANALYSIS OF EXPENDITURES FOR THE FISCAL YEAR 1936

Payrolls

Personal Services:

Regular payroll	\$983,374 78
Temporary Employees payroll	32,408 55
Overtime payroll	4,552 73
	<hr/>
	\$1,020,336 06

Expenses

Supplies:

Books, maps, etc.	\$917 51
Typewriter Supplies	1,568 89
Typewriter Repairs	182 54
Adding Machine Repairs and Supplies	98 30
Other Supplies	3,283 37
Other Repairs	890 71
Stationery	16,661 37
	<hr/>
	\$23,602 69

Equipment and Furniture:

Typewriter machines	\$3,972 37
Adding machines	845 00
Other machines	6,025 64
Desks	1,007 29
Bookcases, tables, etc.	1,358 59
Electric Fans	367 85
Filing Cabinets	7,152 61
Chairs	1,096 79
Dictograph	980 00
Soundex	9,595 43
Headlight Equipment	1,603 32
Diebold Installation	28 55

Burglar Alarm System	\$283 60	
Uniforms	6,141 76	
Branches—Counters, Safes	658 52	
Decelerometer	319 83	
	<hr/>	\$41,437 15
Traveling Expenses:		
Officials	\$240 81	
Employees	11,271 13	
Aviation	3,339 40	
Automobiles (owned by Employees)	91,444 23	
Maintenance of 12 automobiles	2,802 43	
Purchase of 7 automobiles	4,385 31	
	<hr/>	\$113,483 31
Other Services and Expenses:		
Expressage	\$2,778 82	
Postage	84,200 06	
Paper for printing	8,926 51	
Printing:		
Other reports	1,014 00	
Other printing	9,977 47	
Telephone and teletype	14,010 09	
Premium on Bonds of Employees	508 12	
Rent	300 00	
Cleaning and Janitor Service	495 00	
Labor	1,539 56	
Number plates	119,364 81	
Auto List	10,450 00	
Water and Ice	3 33	
Sundries	174 96	
Temporary branches during rush	43 05	
	<hr/>	\$253,785 78
Branch Offices:		
Rent, telephone, lighting	\$30,868 88	
Labor and services	7,469 16	
Supplies and Express	2,514 09	
	<hr/>	\$40,852 13
	<i>Publicity for Safety Work</i>	
Printing		\$62 68
		<hr/>
		\$1,493,559 80
	<i>Committee on Aeronautics</i>	
Committee on Aeronautics		2,425 61
		<hr/>
		\$1,495,985 41
	<i>Summary</i>	
Payrolls	\$1,020,336 06	
Expenses	473,161 06	
Publicity for Safety Work	62 68	
Committee on Aeronautics	2,425 61	
	<hr/>	\$1,495,985 41

RELATING TO WATERWAYS AND PUBLIC LANDS BOSTON HARBOR

The Commonwealth Flats at South Boston

Commonwealth Pier 5

During the year work necessary to continue the effective operation of the pier has been carried on as usual. Repairs have been made to gangways, floating fenders, elevators and elevator machinery, sprinkler system, Ogden doors and the heating plant.

In the quarters occupied at the pier by the Department of Public Safety work has been carried out in the installation of additional ventilation, grills for protecting equipment and in the building of partitions.

The work of repairing and reconstructing platforms at the pier, approved as Public Works Administration Project No. Mass. 1301, has been in progress during the year under two contracts.

On Dec. 13, 1935, a contract was made with the Merritt-Chapman and Scott Corporation for the removal of existing pile and concrete platforms and the construction of a new concrete platform consisting of a reinforced concrete deck slab supported by girders and steel beams on caisson and steel pile foundations of which the steel piles were driven to rock bearing. The contract price for removing the existing platform including piling and other structures, and disposing of the material, is the lump sum of \$51,810; the work of rebuilding is done at unit prices at an estimated total contract cost of \$717,974. This work is now in progress.

A contract was made on July 14, 1936, with the Bay State Dredging and Contracting Company for the reconstruction of platforms and pile protection at the Head House at the pier, at a contract price of \$4,500. for removing and disposing of existing platforms, including all incidental work, and at unit prices for the reconstruction and pile protection, at an estimated total contract cost of \$79,513.94. This work is now in progress.

A grant of \$368,550. was made by the Public Works Administration for the reconstruction covered by these contracts. As, however, the lowest bid received for the work at the Head House was greater than the amount of money available for the reconstruction, the Public Works Administration on Sept. 22, 1936, made an additional grant of \$17,976. for the purpose.

As a part of the work required by the Federal Government in connection with its project for further improvement of Boston Harbor by dredging the main ship channel to a depth of 40 feet at mean low water, the Department on Mar. 3, 1936, made a contract with the J. S. Packard Dredging Company to dredge to a depth of 40 feet at mean low water the approach to Commonwealth Pier 5, at the following contract prices: for dredging and disposing of the dredged material 49.75 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20. per cubic yard. The work was completed May 18, 1936, at a contract cost of \$74,097.15.

A letter contract was made on July 28, 1936, with the J. S. Packard Dredging Company for the removal of certain shoals in the approach channel to Commonwealth Pier 5 at the following contract prices; for dredging and disposing of the dredged material 49.75 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20. per cubic yard. This dredging was completed Aug. 6, 1936, at a contract cost of \$2,356.16.

A summary of freight and passengers using the pier in 1936 follows:

NUMBER OF TONS FREIGHT AND PASSENGERS HANDLED AT COMMONWEALTH
PIER No. 5 DURING FISCAL YEAR ENDING NOVEMBER 30, 1936

Steamship Line	Number of Ships	In Freight (tons)			Out Freight (tons)			Passengers	
		R.R.	Truck	Total	R.R.	Truck	Total	In	Out
Amer.-Haw. S.S. Co. .	97	29,635	107,035	136,670	14,181	29,725	43,906	—	—
Luckenback S.S. Co., Inc.	66	6,322	73,478	79,800	8,197	20,800	28,997	—	—
Norton, Lilly & Co. .	1	440	1,220	1,660	—	—	—	—	—
Can. Nat. S.S. Co. .	72	264	854	1,118	—	246	246	3,852	3,210
Italian Line . . .	16	88	581	669	254	481	735	550	2,209
Polish Line . . .	1	—	—	—	—	—	—	—	10
French Line . . .	2	—	—	—	—	—	—	77	477
Holland Amer. Line .	3	—	—	—	—	20	20	—	429
Totals	258	36,749	183,168	219,917	22,632	51,272	73,904	4,479	6,335

DEVELOPMENT OF LAND SOUTH OF SUMMER STREET

The seven sections of Storehouse No. 1 on E Street have been occupied during the year by the Wiggin Terminals, Inc.

On Jan. 28, 1936, a letter contract was made with Fred L. Douglass to include repairs or extension of the sprinkler system at this warehouse until Nov. 30, 1936.

BOSTON ARMY BASE

In response to a request from the Boston Quartermaster Depot for a wider entrance to the Boston Army Base, the Department conceded for street purposes the use of a triangular parcel of land of the Commonwealth lying northwesterly of the intersection of Summer Street and Harbor Street, with the northerly side of the parcel in line with the northerly side line of Terminal Street of the Army Base extended westerly.

THE COMMONWEALTH FLATS AT EAST BOSTON

Aircraft Landing Field - - - Boston Airport

The greater part of the area reclaimed by the Commonwealth at East Boston continues to be occupied by the city of Boston as an airport. On Aug. 10, 1928, under authority of Chapter 64 of the Resolves of that year, the Department leased to the city approximately 5,717,000 square feet of land for this purpose. The use of an additional area of 4,210,760 square feet was authorized by a lease executed July 14, 1930, in accordance with the provisions of Chapter 53 of the Resolves of 1930. The matter of the lease to the city of two additional parcels, one north-easterly of the areas leased in 1928 and 1930, the other southeasterly of the parcel leased in 1930, is still pending.

The use of these areas by the city is subject to certain rights of occupancy and use granted by lease of June 30, 1922 to the War Department, with an option of annual renewals to June 30, 1937, by a supplementary agreement of Dec. 27, 1926.

Reclamation of Flats

The work of dredging and filling at East Boston under contracts made by the Department for the purpose of reclaiming flats has been in abeyance since 1923. Between that year and Nov. 30, 1936, approximately 3,169,000 cubic yards of material dredged from various locations in the harbor have been deposited in the receiving basin. In the year ending Nov. 30, 1936, about 356,600 cubic yards were dumped upon flats northerly of Governors Island. The Commonwealth has reclaimed approximately 150 acres of land at East Boston.

Under licenses granted for building bulkheads, dredging and filling, the city has reclaimed for the extension of the airport about 140 acres.

COMMONWEALTH PIER 1, EAST BOSTON

The use and occupancy of this pier by John G. Hall and Company, Inc., terminated on May 31, 1936.

A contract was made on Nov. 25, 1936, with the Flynn Roofing and Sheet Metal Works for furnishing and erecting fifty-six skylights at a contract price of \$1,290. This work is now in progress.

EAST BOSTON, CUNARD DOCKS

As a part of the work required by the Federal Government in connection with its project adopted for further improvement of Boston Harbor by dredging the main ship channel to a depth of 40 feet at mean low water, the Department on Feb. 25, 1936, made a contract with the Bay State Dredging and Contracting Company for dredging an area between the Cunard Docks and the main ship channel to a depth of 40 feet at mean low water, at the following contract prices: for dredging and disposing of the dredged material 48.5 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20. for each cubic yard. This work was completed June 26, 1936, at a contract cost of \$97,087.03.

On June 23, 1936, a letter contract was made with the Bay State Dredging and Contracting Company for dredging about 27,000 cubic yards of material from an area between the Cunard Docks and the main ship channel to a depth of 40 feet at mean low water, at the following contract prices: for dredging and disposing of the dredged material 48.5 cents per cubic yard, scow measurement; for removing

and disposing of boulders \$20. per cubic yard. This dredging was completed July 30, 1936, at a contract cost of \$13,070.75.

A letter contract was made on Aug. 4, 1936, with the Bay State Dredging and Contracting Company to continue the dredging to a depth of 40 feet at mean low water in the area between the Cunard Docks and the main ship channel at the contract prices stated in the preceding letter contract. This work is now in progress.

HOUGHS NECK, QUINCY

Sea Wall.—The work of building a sea wall about 840 feet long with riprap protection, and of constructing two stone jetties on the shore at Houghs Neck under the agreement of Aug. 14, 1934, between the city of Quincy and the Department, authorized by Chapter 322 of the Acts of 1934, was completed early in the year at a cost of \$24,146.28. Of this cost \$10,000 was paid by the Department for labor, materials and equipment used in the work.

Dredging.—On Jan. 23, 1936, hearing was held upon the petition of the Quincy Yacht Club for dredging a basin and a channel adjacent to its club house and to the public landing.

A contract with the Bay State Dredging and Contracting Company was made on June 19, 1936, to redredge the channel and basin to a depth of 8 feet at mean low water, the channel to a width of 60 feet and a length of about 1200 feet, the basin to dimensions of about 400 feet by 300 feet, and a connecting basin to a depth of 6 feet at mean low water to a length of about 300 feet and a width of 150 feet, at the following contract prices: for dredging and disposing of the dredged material 49.5 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed July 23, 1936, at a contract cost of \$15,790. Toward this cost a contribution of \$3,500 was made by the city of Quincy.

WEYMOUTH FORE RIVER, QUINCY AND WEYMOUTH

The project adopted by the Federal Government for the improvement of Weymouth Fore River by dredging a channel 300 feet wide and 27 feet deep at mean low water from Hingham Bay to Weymouth Fore River Bridge, required the dredging by local interests of a channel of equal depth and suitable width to extend at least 2,500 feet through and upstream from said bridge.

The Department, in accordance with this requirement of the Federal Government made a contract on Apr. 7, 1936, with the J. S. Packard Dredging Company for dredging to a depth of 27 feet at mean low water a channel from the downstream side of Weymouth Fore River Bridge through the bridge and upstream for a total distance of about 2,800 feet with a width of 300 feet, at the following contract prices: for dredging and disposing of the dredged material 46 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed July 31, 1936, at a contract cost of \$46,159.74. The cost of this dredging was paid from funds provided by Chapter 464 of the Acts of 1935.

On Nov. 19, 1936, a letter contract was made with the J. S. Packard Dredging Company for dredging about 13,000 cubic yards of material in the channel above the Weymouth Fore River Bridge to a depth of 27 feet at mean low water, at the following contract prices: for dredging and disposing of the dredged material 46 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work is now in progress.

WINTHROP DREDGING

Cottage Park and Pleasant Park Yacht Clubs

On Jan. 23, 1936, hearing was held upon a petition of the Cottage Park Yacht Club for dredging a channel to its club house and a petition of the Pleasant Park Yacht Club for dredging a basin and channel to its property.

At its annual town meeting on Mar. 23, 1936, the town of Winthrop appropriated \$6,187.50 as a contribution toward the cost of dredging asked for by the Pleasant Park Yacht Club, and \$4,000 toward the cost of dredging requested by the Cottage Park Yacht Club, upon condition that the Department carried out both projects and arranged for the deposit of the excavated material at Ingleside Park.

A contract was made on July 21, 1936, with the Bay State Dredging and

Contracting Company to dredge a basin 6 feet deep at mean low water at the Pleasant Park Yacht Club, and a channel and basin 8 feet deep at mean low water at the Cottage Park Yacht Club, at the following contract prices: for dredging and disposing of the dredged material at Ingleside Park, Winthrop, by the hydraulic process, including the construction of necessary dikes and sluices or other barriers, 68.5 cents per cubic yard measured in place; for removing and disposing of boulders \$20 for each cubic yard. Work under this contract was completed Sept. 11, 1936, at a contract cost of \$41,887.75. Toward this cost a total contribution of \$10,187.50 was made by the town of Winthrop.

MARINE BORERS

The Department has continued this year its co-operation with the New England Committee on Marine Piling Investigation by maintaining four test boards in Boston Harbor at the following locations: Weymouth Fore River Bridge at Quincy Point; Commonwealth Pier 5, South Boston; Commonwealth Pier 1, East Boston; and at the wharf owned by the Commonwealth in South Bay, Roxbury.

Under Item 668 of Chapter 437 of the Acts of 1936 for inspection of structures in tide water within Boston Harbor, 115 wharves have been inspected above low water and 15 have been inspected by a diver below low water.

SEA WALLS

Repairs have been made during the year to sea walls at Pemberton and Point Allerton in Hull and at Houghs Neck in Quincy.

SURVEYS

Surveys have been made this year in connection with the maintenance and operation of property of the Commonwealth. Hydrographic surveys have been carried on in the Charles River, in the Reserved Channel above L Street Bridge, in the approach channel to Commonwealth Pier 5, between the main ship channel and the Cunard Docks at East Boston, in Weymouth Fore River at Houghs Neck and in parts of Mystic River, as well as in minor channels of Boston Harbor.

RIVERS, HARBORS, TIDE WATERS AND FORESHORES OUTSIDE OF BOSTON HARBOR

For the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, in accordance with the provisions of section 11, Chapter 91 of the General Laws, an appropriation of \$100,000 was made during 1936 with the following condition:

“provided that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered.”

An appropriation of \$22,500 was also available during the year for the maintenance of structures and for repairing damages along the coast line or river banks of the Commonwealth, and for the removal of wrecks and other obstructions from the tide waters and great ponds.

Petitions were filed with the Department during the year for surveys and improvements in the following localities: Acushnet River, New Bedford; Cape Poge, Edgartown; Connecticut River, Hatfield, Sunderland, Northampton; Cotuit Harbor, Barnstable; Dennisport, Dennis; East Bay, Barnstable; Falmouth shore protection, Falmouth; Gun Rock-Green Hill sea wall, Hull; Harwichport shore, Harwich; Lake Anthony, Oak Bluffs; Lewis Bay, Barnstable; Lewis Bay, Yarmouth; Manchester Harbor, Manchester; Megansett Harbor, Falmouth; Nantucket Harbor, Nantucket; Nahant Shore protection, Nahant; Oak Bluffs shore protection; Paskamansett River, Dartmouth; Pilgrim Beach, Truro; Pond Village, Truro; Popponneset Bay, Barnstable; Provincetown Harbor, Provincetown; Provincetown shore protection; Rock Harbor, Orleans; Rockport Harbor, Rockport;

Vineyard Haven Harbor, Tisbury; Waquoit Bay, Falmouth; Witchmere Harbor, Harwich.

Public hearings have been held, certain estimates of cost made but no work has been done to carry out improvements petitioned for in Acushnet River, New Bedford; Cape Poge, Edgartown; Gun Rock-Green Hill sea wall, Hull; Lewis Bay, Yarmouth; Nahant Shore, Nahant; Nantucket Harbor, Nantucket; Paskamansett River, Dartmouth; Pond Village, Truro; Rockport Harbor, Rockport.

Information relating to work previously done in various rivers and harbors of the Commonwealth may be found in the annual reports of the Board of Harbor and Land Commissioners, the Commission on Waterways and Public Lands, the Division of Waterways and Public Lands of the Department of Public Works, and of the Department of Public Works, and in the tables of the Appendix accompanying the present report. These reports show localities, character of work, appropriations and expenditures by the Commonwealth and certain appropriations and expenditures by the Federal Government.

An account of work done during the year 1936 for the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor follows.

ALLENS HARBOR, HARWICH

The work of dredging in the entrance channel to Allens Harbor under contract of June 18, 1935, with Herbert T. Gerrish, was completed July 1, 1936. Toward the cost of this work a contribution of \$1,000 was made by the town of Harwich.

BARNSTABLE DREDGING

Cotuit Harbor, East Bay and Lewis Bay

On Jan. 23, 1936, hearing was held upon petitions of the Selectmen of Barnstable for dredging entrance channels to Cotuit Harbor, East Bay and Lewis Bay.

A contract was made on July 1, 1936, with the Bay State Dredging and Contracting Company to dredge a channel at the entrance to Cotuit Harbor 100 feet wide on the bottom and 6 feet deep at mean low water; the entrance to East Bay 60 feet wide on the bottom and 6 feet deep at mean low water; and the entrance channel to Lewis Bay 80 feet wide on the bottom and 9 feet deep at mean low water. The contract prices for this work are: for dredging and disposing of the dredged material 81 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. The dredging in East Bay and Lewis Bay has been completed but the work at Cotuit has not yet begun.

A contribution of \$9,000 has been made by the town of Barnstable toward the cost of the dredging covered by this contract.

BARNSTABLE SHORE PROTECTION

South Hyannis

The work of building a concrete sea wall and three stone jetties, under contract of Sept. 3, 1935, with Harry L. Jones, was completed June 16, at a contract cost of \$14,205.92. Toward this cost contributions amounting to \$3,993.67 were made in 1935 by individuals and organizations interested, and an equal amount was contributed by the county of Barnstable.

West Beach

The work of building four stone jetties at Squaw Island Road under contract of Sept. 4, 1935, with Frederick V. Lawrence was completed Dec. 2, 1935, at a contract cost of \$4,086.08. Toward this cost a contribution of \$1,350 was made by the town and one of an equal amount by the County.

On Aug. 28, 1936, a letter contract was made with Harry L. Jones for unloading, delivering and placing stone bought by the town for repairing and protecting a part of Squaw Island Road. This work was completed Sept. 15, 1936, at a contract cost of \$578.

CAPE COD CANAL LANDING PIER, BOURNE

The present pier, authorized by Chapter 441 of the Acts of 1931, was completed during 1934. It is of solid fill construction, about 600 feet long, providing a depth

of 25 feet in the dock at mean low water and a light timber extension about 400 feet long available as a tie up for vessels along the easterly side of the turning basin. Upon the pier a superstructure 36 feet wide and 200 feet long has been built of brick, steel and timber.

No work except minor repairs has been needed during the year.

After the taking made by the Department on April 26, 1932, for the site of the pier and of the area between mean high and low water required for the building of the structure and the dredging of berths and a turning basin, the awards for damages were contested in the courts by the Trustees under the will of Charles H. Taylor and by Charles H. Taylor, Jr. The cases were settled in 1936 by the payment of \$18,615.35 to the said Trustees and of \$15,509.65 to Charles H. Taylor, Jr. The funds for the settlement were available from an appropriation of \$34,125, made for the purpose by Chapter 432 of the Acts of 1936.

CONNECTICUT RIVER—W.P.A. PROJECTS

The floods of March, 1936, resulted in an amount of damage and destruction along the rivers and streams of the Commonwealth, especially in the valleys of the Connecticut and Merrimack rivers, never before experienced in this State by the rise of their waters. The Connecticut River rose to a height exceeding by about 6 feet any level previously recorded.

Before this disaster the Department had secured approval of certain projects for flood control on the Connecticut River, to be financed chiefly from Federal Funds allocated by the Works Progress Administration. In view of the new data supplied by the unprecedented rise of the river, it seemed advisable to modify and extend the plans for protective work.

Approval was received for projects involving an expenditure of \$577,626.50, but before work began certain portions of it were undertaken by the United States Army Engineers, particularly some work at West Springfield, all of that proposed at Springfield and parts of that contemplated in Chicopee, Hadley and Hatfield.

The work under the supervision of the Department is now in progress. Riprap is being placed along the river bank in Northampton, West Springfield, Deerfield, Chicopee and Holyoke, dikes are under construction in Hadley, Hatfield, Northfield, Chicopee, West Springfield and Holyoke, and a concrete river wall is being built at South Hadley. Additional protective work has been authorized, but not yet begun, in Whately, Northfield, Hadley, South Hadley and Hatfield.

The total expenditure during the year from funds provided by the Works Progress Administration is \$182,427.56. The total cost during the year to the Commonwealth is \$17,896.58. The funds expended by the State for this purpose were paid largely from the appropriation of \$50,000 made by Chapter 142 of the Acts of 1936 for co-operative work with the Works Progress Administration.

DENNIS SHORE

On June 10, 1936, hearing was held upon a petition of the Selectmen of Dennis for the construction of a jetty to protect the public bathing beach at Raycroft Park, Dennisport, from further erosion.

On Aug. 5, 1936, hearing was held upon a petition of the Selectmen for protective work at the shore at Dennisport near the town landing and adjacent to the property of Harry G. Porch.

A contract with the H and J Construction Company was made Sept. 22, 1936, for building two stone jetties each about 160 feet long at Dennisport, one at a point opposite the Cordes property and easterly of a town way, in order to protect the public bathing beach, and the other jetty and riprap at a point opposite property of Harry G. Porch and easterly along the town way. The contract price for this work is \$3.75 for each ton of 2,000 pounds of granite stone riprap and chips in the jetties. The work is now in progress.

Toward the cost of this shore protection contributions of \$600 each have been made by the town and the county.

On Nov. 30, 1936, a letter contract was made with the H & J Construction Company to provide for the placing of 156 tons of additional riprap under the terms and conditions of the contract of Sept. 22, 1936.

ELLISVILLE HARBOR, PLYMOUTH

A letter contract was made Aug. 7, 1936, with Arthur K. Finney for further excavation at the entrance to Ellisville Harbor by the use of a caterpillar crane. The work was completed Aug. 10, 1936, at a contract cost of \$100.

FALMOUTH INNER HARBOR, FALMOUTH

The work of dredging an anchorage basin under contract of May 21, 1935, with Herbert T. Gerrish was completed June 1, 1936. Toward the cost of this work a contribution of \$5,000 was made by the town of Falmouth.

FALMOUTH SHORE

Hearing was held on Jan. 23, 1936, upon a petition of the Selectmen of Falmouth for protective work along the shore opposite Shore Street.

On Oct. 6, 1936, a contract was made with Turner and Breivogel to build a steel sheet pile bulkhead with reinforced concrete cap opposite Shore Street, at the following contract prices: for all steel sheet piling furnished and driven in the completed work, \$74.01 per ton; for all reinforcing steel furnished and placed in the concrete cap, 7.8 cents per pound; for furnishing material and constructing the concrete cap, \$17.29 for each cubic yard of concrete measured in place in the completed work. This project is now in progress.

Toward the cost of the work contributions of \$750 each have been made by the town and by the county.

GLOUCESTER FISH PIER

Chapter 303 of the Acts of 1936 provides as follows:

SECTION 1. Chapter three hundred and eleven of the acts of nineteen hundred and thirty-one is hereby amended by striking out section one and inserting in place thereof the following:—*Section 1.* For the purpose of improving and developing Gloucester harbor for the promotion of the fish industry and the commercial facilities of the city of Gloucester, the state department of public works, hereinafter called the department, is hereby authorized to construct a fish pier in said harbor on a site to be determined by the department with the approval of the municipal council of said city and the Gloucester Planning Board, to erect thereon such buildings as said purposes may require and properly equip the same, to do all dredging necessary for the proper use of said pier, and to provide necessary water and sewerage facilities therefor. Said construction may extend beyond existing harbor lines. All contracts for work authorized by this section shall be subject to the approval of the governor and council.

SECTION 2. Said chapter three hundred and eleven is hereby further amended by striking out section two and inserting in place thereof the following:—*Section 2.* Said city may take by eminent domain under chapter seventy-nine of the General Laws or acquire by purchase or otherwise such piers, wharves, buildings, lands, flats, rights, privileges and easements within the said harbor and adjacent territory as may be necessary for the said purposes, except such as may be owned by the commonwealth, and may transfer the same or such part thereof as the department shall require for said purposes, to the commonwealth, without cost to it, and the property so transferred shall be used for the aforesaid purposes.

SECTION 3. Said chapter three hundred and eleven is hereby further amended by striking out section three, as most recently amended by chapter two hundred and forty-four of the acts of nineteen hundred and thirty-four, and inserting in place thereof the following:—*Section 3.* No work authorized by section one shall be done unless prior to June first, nineteen hundred and thirty-seven, the city of Gloucester shall effect the transfer to the commonwealth of property authorized to be acquired by the preceding section, and shall agree to lay out, construct and maintain at its own expense a public way, suitable for heavy trucking, and extending from the site of the proposed pier to an existing public way which is a main artery of travel; nor unless prior to said date a corporation incorporated under the laws of the commonwealth, hereinafter called the lessee, the financial responsibility of which is satisfactory to the commissioner of corporations and taxation, shall execute a lease of said pier together with the buildings thereon, for a term

beginning on the date of the completion by the department of the work authorized by section one and ending September thirtieth, nineteen hundred and forty-nine. Said lease shall provide that the lessee shall pay to the commonwealth a rental not less than twenty thousand dollars a year, and shall be subject to such provisions and conditions as may be agreed upon by the department and the lessee.

SECTION 4. Said chapter three hundred and eleven is hereby further amended by striking out section four and inserting in place thereof the following:—*Section 4.* At the expiration of the original term of said lease, provided it is continued in full force and effect at all times during such term, it may, at the option of the lessee, be renewed for a further period of twenty years, at such rental, not less than twenty-five thousand dollars a year, as may be agreed upon by the department and the lessee, or, in case of failure so to agree, as may be determined by three arbitrators, one to be named by the department, one by the lessee and a third to be selected by the two so chosen. At the termination of said renewed lease, it may, at the option of the lessee, be again renewed and for such term of years and upon such terms and conditions as may be agreed upon by the department and the lessee, or, in case of failure so to agree, as may be determined by three arbitrators appointed as aforesaid.

SECTION 5. Said chapter three hundred and eleven is hereby further amended by striking out section five and inserting in place thereof the following:—*Section 5.* To meet the expenditures necessary in carrying out the provisions of section one, as amended, the state treasurer shall, upon request of the department, issue and sell, at public or private sale, bonds of the commonwealth, registered or with interest coupons attached, as he may deem best, to an amount to be specified by the department from time to time, but not in excess of six hundred and sixty thousand dollars in the aggregate. All such bonds shall be designated on their face,—Gloucester Pier Loan, and shall be on the serial payment plan for such maximum term of years as the governor may recommend to the general court in accordance with section three of article sixty-two of the amendments to the constitution of the commonwealth, the maturities thereof to be so arranged that the amount payable each year, other than the final year, shall, as nearly as is in the opinion of the state treasurer practicable, be equal. Said bonds shall bear interest payable semi-annually at such rate as the state treasurer, with the approval of the governor and council, shall fix.

SECTION 6. Said chapter three hundred and eleven is hereby further amended by inserting after section five the following new section:—*Section 5A.* For the purpose of acquiring land for said pier, the city of Gloucester may borrow from time to time, within a period of five years from June first, nineteen hundred and thirty-six, such sums as may be necessary, not exceeding, in the aggregate, one hundred thousand dollars, and may issue bonds or notes therefor which shall bear on their face the words, Gloucester Pier Loan, Act of 1936. Each authorized issue shall constitute a separate loan and such loans shall be paid in not more than twenty years from their dates. Indebtedness incurred under this section shall be inside the debt limit and shall, except as herein provided, be subject to the provisions of chapter forty-four of the General Laws, exclusive of the limitation contained in the first paragraph of section seven thereof. *Approved May 29, 1936.*

To supplement the funds provided by the statute, the Department applied to the Federal Public Works Administration for aid in financing the building of the pier. The work was approved as P.W.A. Project 1354 R S and a grant of not exceeding \$540,000 was offered and accepted by the Department in September.

After a public hearing in Gloucester on Oct. 6, 1936, the Department voted on Oct. 15, 1936, to adopt the site at Five Pound Island for the proposed fish and commercial pier authorized by the Act. On Oct. 24, 1936, the Municipal Council of Gloucester passed an Order approving this site, and on Oct. 26, 1936, the Gloucester Planning Board voted its approval.

On Nov. 4, 1936, proposals were received for the lease of the proposed pier. A request was then made for the approval of the site at Five Pound Island by the Federal authorities and copies of the proposals received for the lease of the pier were forwarded with the request, and with a draft of the contemplated lease.

A reply under date of Nov. 13, 1936, was received from the office of the Federal Public Works Administration stating that the Corporation submitting the only

proposal received for lease of a fish and commercial pier at the Five Pound Island site, is not acceptable as Federal funds are not available unless the lessee is a non-profit sharing corporation. Efforts are now being made in Gloucester to organize a co-operative or non-profit sharing corporation, satisfactory to the Federal Government, as lessee of the proposed pier.

HARWICH SHORE PROTECTION

Hearing was held on Jan. 23, 1936, upon a petition of the Selectmen of Harwich for protective work upon the shore from Dennis to the Chatham boundary line.

A contract was made on Sept. 8, 1936, with the H and J Construction Company for building four stone jetties and rebuilding two jetties at Harwichport, at the following contract prices: for furnishing and placing granite stone riprap and chips in the jetties, \$3.90 for each ton of 2,000 pounds; for furnishing crane operator, two men and all incidental work in rebuilding the two jetties, the sum of \$10 for each hour. This work is now in progress. Toward the cost of the project contributions of \$1,000 each were made by the town and by the county.

At the request of the Selectmen further protective work was provided for by a contract made on Nov. 17, 1936, with F. V. Lawrence for building four stone jetties at Harwichport at a contract price of \$3.15 for each ton of 2,000 pounds of granite stone riprap and chips furnished and placed in the jetties. Toward the cost of this work contributions of \$1,200 each were made by the town and by the county.

HERRING RIVER, HARWICH

The work of dredging in the entrance to Herring River under contract of June 18, 1935, with Herbert T. Gerrish was completed July 1, 1936. Toward the cost of this dredging a contribution of \$1,000 was made by the town of Harwich.

On Nov. 9, 1936, a letter contract was made with Herbert T. Gerrish for dredging about 4,085 cubic yards of material from this entrance channel and for disposing of the dredged material on the east side of the easterly jetty, at a contract price of 43 cents per cubic yard. The work was completed Nov. 13, 1936.

HITHER CREEK, NANTUCKET

A contract was made on April 1, 1936, with Herbert T. Gerrish for dredging to a depth of 4 feet at mean low water, a channel 50 feet wide on the bottom and about 2,300 feet long and a basin 200 feet wide and 500 feet long on the bottom, in Hither Creek, Nantucket, at the contract price of 55 cents per cubic yard for material, measured in place, for dredging and disposing of excavated material on marsh and flats by the hydraulic process, including the construction of the necessary dikes and sluices or other barriers. This work was completed October 1, 1936, at a contract cost of \$10,890.

The cost of this dredging was paid from funds available under the provisions of Chapter 464 of the Acts of 1935.

HOUSATONIC RIVER, PITTSFIELD

Chapter 413 of the Acts of 1935 provides as follows:

SECTION 1. The department of Public Works is hereby authorized and directed to provide for the control of the flood waters of the Housatonic river in the city of Pittsfield for the purpose of safeguarding and protecting the lives and property of the people of said city against perils from floods and erosion of the banks of said river, and for said purpose the department may exercise all the powers conferred upon it by chapter ninety-one of the General Laws relative to the improvement of rivers and harbors. No work shall be begun hereunder until the city of Pittsfield has assumed liability, in the manner provided by section twenty-nine of said chapter ninety-one, for all damages that may be incurred hereunder, nor until there has been paid into the treasury of the commonwealth by the county of Berkshire the sum of twenty-five hundred dollars, and by said city of Pittsfield the sum of ten thousand dollars, which, together with such sum, not exceeding twelve thousand five hundred dollars, as may hereafter be appropriated by the commonwealth, shall constitute a fund for the improvements herein authorized; provided, that the total cost of such improvements shall not exceed twenty-five thousand dollars.

SECTION 2. For the purpose of meeting the payment required to be made by the county of Berkshire under this act, the treasurer of said county, with the approval of the county commissioners, may borrow the sum of twenty-five hundred dollars for the term of one year and may issue notes of the county therefor.

For the purpose of meeting the payment required to be made by the city of Pittsfield under this act, said city may borrow a sum not exceeding ten thousand dollars, and may issue bonds or notes therefor, payable in not more than two years from the dates thereof. Indebtedness incurred by said city under this act shall be within the statutory limit and shall, except as herein provided, be subject to chapter forty-four of the General Laws, exclusive of the limitation contained in the first paragraph of section seven thereof.

The said county and city may sell the said securities at public or private sale, but not for less than their par value.

Plans for the work authorized by the statute were prepared by the Department and approved by the city and county authorities. Difficulties so serious, however, were found in securing the necessary release from owners of property, that the city has been unwilling to assume the liability for damages required by the provisions of the Act. The project has, therefore, been abandoned for the present.

LAKE ANTHONY, OAK BLUFFS

Hearing was held on Jan. 23, 1936, upon the petition of the Selectmen of Oak Bluffs for dredging Lake Anthony.

On April 1, 1936, a contract was made with Herbert T. Gerrish to dredge the entrance channel and anchorage basin at Lake Anthony, the channel 100 feet wide on the bottom, 700 feet long and 9 feet deep at mean low water, the basin 800 feet long, about 400 feet wide on the bottom and 7 feet deep at mean low water, at the following contract prices: for dredging and disposing of the excavated material back of the new bulkhead or on marsh or flats by the hydraulic process, including the construction of the necessary dikes and sluices or other barriers, 50 cents for each cubic yard of material measured in place; for removing and disposing of boulders, \$20 for each cubic yard. This dredging was completed Nov. 10, 1936, at a contract cost of \$13,122.

In connection with this work the town of Oak Bluffs built a bulkhead at the northerly end of Lake Anthony to provide a disposal area for the dredged material.

The cost of the dredging carried out under this contract is paid from funds available under the provisions of Chapter 464 of the Acts of 1935.

MANCHESTER HARBOR, MANCHESTER

The work under contract of Oct. 4, 1935, with the Bay State Dredging and Contracting Company for dredging in Manchester Harbor, was completed Dec. 28, 1935, at a contract cost of \$33,859.52. This cost included additional dredging to provide anchorage space for small boats. The entire cost of the work was paid from funds available under the provisions of Chapter 464 of the Acts of 1935.

Hearing was held on Jan. 23, 1936, upon a petition of the Selectmen of Manchester for further dredging in Manchester Harbor.

On Sept. 8, 1936, a contract was made with the J. S. Packard Dredging Company for dredging an anchorage basin 6 feet deep at mean low water and a channel about 5,400 feet long of widths varying from 150 feet to 100 feet and to 60 feet, to a depth of 8 feet at mean low water, in this harbor, at the following contract prices: for dredging and disposing of the dredged material 55 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work is now in progress. Toward the cost of the dredging a contribution of \$20,000 has been made by the town of Manchester.

MEGANSETT HARBOR, FALMOUTH

Hearing was held Jan. 23, 1936, upon a petition of the Selectmen of Falmouth for the construction of a breakwater at the entrance to Megansett Harbor.

On Sept. 8, 1936, a contract was made with George M. Bryne for building a stone breakwater at this harbor at a contract price of \$3.45 per ton of 2,000 pounds for heavy stone riprap furnished in place in the completed work. The construc-

tion of the breakwater is now in progress. Toward the cost of the work a contribution of \$12,000 has been made by the town of Falmouth.

MENAMSHA CREEK, CHILMARK AND GAY HEAD

The dredging under contract of Oct. 4, 1935, with the Bay State Dredging and Contracting Company was completed Dec. 13, 1935, at a contract cost of \$51,300. This cost was paid from funds available under the provisions of Chapter 464 of the Acts of 1935.

NEW BEDFORD STATE PIER

During the year a portion of this pier has been occupied by the Lamport Manufacturing Supply Company, Inc., at a rental of \$5,500. While the lease of April 27, 1933, authorizing this occupancy expired March 31, 1936, the Company has been allowed to continue since that date as tenant-at-will.

The work of furnishing and driving creosoted, yellow pine piles and furnishing and placing creosoted, yellow pine cap log and untreated oak facing, at the pier, under contract of Nov. 6, 1935, with Frank C. Taylor, Inc., was completed Jan. 7, 1936, at a contract cost of \$2,886.62.

On Nov. 3, 1936, a letter contract was made with Frank C. Taylor, Inc., for replacing a fender pile cluster with one additional bearing pile at the outer end of the pier, at a contract price of \$600. This work was completed Nov. 30, 1936, at a contract cost of \$600.

A letter contract with James Yohe was made on Nov. 3, 1936, for repairing and painting two flag poles at the pier, at a contract price of \$48. This work is now in progress.

On Nov. 25, 1936, a letter contract was made with Frank C. Taylor, Inc., for repairs to the cluster piles at the southeasterly corner of the pier, at a total cost not exceeding \$50. This work was completed Nov. 30, 1936, at a contract cost of \$46.

The use of the New Bedford State Pier, particularly by vessels in coastwise trade from Gulf and Pacific ports, has now increased to a degree requiring additional space for the handling of cargo. Two of the steamship lines making regular weekly trips to the port have been obliged to find storage space for a part of their cargo at points a considerable distance from the waterfront, and, in consequence, to incur high trucking costs in order to transfer goods from the pier to the warehouses.

The Lamport Manufacturing Supply Company, Inc., which has never used the facilities provided for water borne commerce at the pier, still occupies over 75% of the covered storage space. The amount of rental paid by the Company is less than the net income to the Department from the operation of less than 25% of the total facilities. Income from the pier would be largely increased were the whole structure with all its facilities devoted to the purposes of water borne commerce for which the pier was originally intended.

OAK BLUFFS SHORE PROTECTION

Hearing was held Jan. 23, 1936, upon a petition of the Selectmen of Oak Bluffs for protective work along the shore.

On June 2, 1936, a letter contract was made with Turner and Breivogel to straighten, redrive to the proper level, and repair certain portions of the pile and timber bulkhead at the Highlands, for the lump sum of \$2,300. This work was completed Aug. 10, 1936.

A contract was made on Aug. 11, 1936, with Frederick V. Lawrence to furnish and place about 2,000 tons of stone riprap and about 850 cubic yards of back filling to protect the bank back of the present timber bulkhead at the Highlands. The contract prices for this work were: for each ton of heavy stone riprap furnished in place in the completed work, \$5.23; for furnishing material and filling bank in back of bulkhead, 90 cents for each cubic yard of fill measured in place in the completed work. This project was completed Oct. 28, 1936, at a contract cost of \$11,554.31.

ONSET BAY, WAREHAM

The work of dredging a channel and basin in Onset Bay under contract of Oct. 4, 1935, with Herbert T. Gerrish was completed April 16, 1936, at a contract cost of \$60,382.72. This cost was paid from funds made available by the provisions of Chapter 464 of the Acts of 1935.

On July 28, 1936, a letter contract was made with the Bay State Dredging and Contracting Company for removing two shoals in the channel to the town wharf at Onset, at a contract price of 51.5 cents per cubic yard, scow measurement, for dredging, and of \$20 per cubic yard for removing boulders. This work was completed Nov. 2, 1936, at a contract cost of \$1,763.76.

COMMONWEALTH PROPERTY AT PLYMOUTH

An appropriation of \$4,000 was made this year by the Legislature for the maintenance and repair of property at Plymouth acquired by the Pilgrim Tercentenary Commission and placed under the jurisdiction of the Department by vote of the Governor and Council on July 17, 1924.

The usual care has been given to the pier and the grounds during the year, and minor repairs have been made as they became necessary.

The work of rebuilding the State Pier under contract of July 16, 1935, with the Lee Construction Company was completed Jan. 30, 1936, but final payment is awaiting certain adjustment.

To provide for the rebuilding of the approach to the pier, a contract with John F. Shea Company, Inc., was made on Aug. 11, 1936, for furnishing all materials for the construction of about 110 linear feet of timber cap, resetting a portion of the existing granite curbing, furnishing and setting about 10 linear feet of new granite curbing, placing about 200 cubic yards of new fill and about 1,400 square yards of bituminous concrete pavement in the approach to the State Pier. The contract prices for this work were: for furnishing material and filling, \$1.00 per cubic yard of material in the fill measured in the completed work; for re-setting granite curbing and furnishing and setting new granite curbing, the lump sum of \$140; for furnishing all materials and constructing timber cap complete in place, the lump sum of \$240; for furnishing all materials, equipment and incidental work in placing the bituminous concrete surface in the approach completed in place, \$1 for each square yard of bituminous concrete surface in place. The work was completed Sept. 11, 1936, at a contract cost of \$2,075.

In October the Commissioners were asked by the Selectmen of Plymouth to allow fishing boats to tie up at the State Pier and to discharge cargo there during the months from October 1st of each year to June 1st of the following year, as the town pier is inadequate for the requirements of the fishermen in the winter season. As such use of the pier will not interfere with the docking of the steamboats for landing and embarking passengers from June 1st to October 1st of each year, there appears no objection to granting the request of the Selectmen.

The Department on Nov. 3, 1936, adopted rules and regulations allowing the use of the pier by the fishing boats between October 1st and June 1st at rates now in force at the Cape Cod Canal Pier for similar service. These regulations were approved by the Governor and Council on Nov. 12, 1936, and became effective upon that date.

PLYMOUTH HARBOR, PLYMOUTH

The work of dredging in Plymouth Harbor under contract of Oct. 4, 1935, with the Bay State Dredging and Contracting Company was completed Dec. 11, 1935. The original project for dredging two areas in the basin near the Plymouth Yacht Club, was extended to provide for the excavation of an additional area for a turning basin at the State Pier and for extension of the dredging in the anchorage basin. The contract cost of the entire work was \$40,863.87. This cost was paid from funds made available by Chapter 464 of the Acts of 1935.

During the year, at the request of the Selectmen, a survey of the outer harbor was made.

POPPONESSET BAY, BARNSTABLE

Hearing was held Jan. 23, 1936, upon a petition of Robert T. Fowler for dredging

in Popponeset Bay along the easterly shore in extension northerly of the existing channel.

On June 21, 1936, a contract was made with Herbert T. Gerrish for dredging in Popponeset Bay to a depth of 5 feet at mean low water a channel 50 feet wide on the bottom and a basin about 250 feet long and 200 feet wide to the same depth, at the following contract prices: for dredging and disposing of the excavated material on marsh and flats by the hydraulic process, including the construction of the necessary dikes, and sluices or other barriers, for each cubic yard of material measured in place 52 cents; for removing and disposing of boulders \$20 per cubic yard. Work under this contract has not yet begun.

PROVINCETOWN HARBOR, PROVINCETOWN

The Cape Cod Steamship Company, because of a change in conditions at the town wharf in Provincetown, filed a petition in May for dredging by the Commonwealth of an entrance channel to the wharf known as the Sklaroff Pier in Provincetown, and of berths at this pier. Hearing was held early in June upon this petition.

A contract was made on June 2, 1936, with the Bay State Dredging and Contracting Company for dredging an entrance channel and berth at the Sklaroff Wharf, a channel 100 feet wide on the bottom, and a berth 60 feet wide on the bottom and 15 feet deep at mean low water, at the following contract prices: for dredging and disposing of the dredged material 64 cents per cubic yard, scow measurement. This dredging was completed July 25, 1936, at a contract cost of \$19,843.20. Funds to pay for the work were provided by the Legislature by item 654A of Chapter 432 of the Acts of 1936.

PROVINCETOWN TERCENTENARY COMMISSION

During the year the land at Provincetown acquired by the Provincetown Tercentenary Commission and placed under the control of the Department on June 23, 1926, has been cared for from funds appropriated for this area and the Province Lands. An employee has been kept at work during the summer to maintain the park in proper condition.

ROCK HARBOR, ORLEANS

Hearing was held Jan. 23, 1936, on the petition of the Selectmen of Orleans for protective work at Rock Harbor.

A letter contract with Roland L. Mayo was made on July 28, 1936, for furnishing and placing about 60 cubic yards of sand and gravel back of the bulkhead at Rock Harbor, for surfacing the filling with 3½ inches of hot mix road surfacing, and for placing 160 tons of quarry stone riprap, for the lump sum of \$1,040. This work was completed Sept. 1, 1936, at a contract cost of \$1,132.68.

On Aug. 21, 1936, a letter contract was made with Roland L. Mayo to remove blocks of bituminous road material from the back of the bulkhead at Rock Harbor, at actual cost plus 15%, at a total estimated cost of \$92.86. This work was completed Aug. 6, 1936, at a contract cost of \$92.86.

A letter contract for the extension of the protective work was made with Roland L. Mayo on Nov. 10, 1936, for placing about 100 tons of stone riprap for \$3 per ton and about 100 cubic yards of gravel fill for \$1.50 per cubic yard, in extending the riprap. This work was completed Nov. 27, 1936, at a contract cost of \$459.53.

Toward the cost of the protective work at Rock Harbor contributions of \$500 each were made by the town of Orleans and by the county.

ROUGHAN'S POINT, REVERE

By Chapter 358 of the Acts of 1936, the Department of Public Works is authorized and directed to construct a sea wall at Roughan's Point in the Beachmont section of the city of Revere, extending from the Cherry Island bar to the existing sea wall on Winthrop parkway, and to take by eminent domain under Chapter 79 of the General Laws, or acquire by purchase or otherwise, any lands or interests therein necessary or desirable for such purpose. The statute provides that no work shall be begun until the city of Revere has contributed and paid into the treasury of the Commonwealth \$42,500 to be used with a sum not exceeding \$127,500 appropriated by the Commonwealth.

The required contribution of \$42,500 was paid into the State Treasury by the city of Revere in September.

A letter contract was made on Sept. 14, 1936, with the Raymond Concrete Pile Company to take wash borings at the site of the proposed sea wall at a contract price of 72 cents per linear foot. This work was completed Sept. 23, 1936, at a contract cost of \$359.28.

On Nov. 6, 1936, the Department made a taking of the right and easement in certain parcels of land at Roughan's Point, Revere, necessary for the construction and maintenance of the sea wall. This taking was approved by the Governor and Council on Nov. 12, 1936, and recorded in the registry of deeds for Suffolk County on Nov. 17, 1936.

A contract was made on Nov. 17, 1936, with M. F. Gaddis, Inc., for the construction of a concrete and steel sea wall, granite steps, solid fill and riprap at Roughan's Point, at the following contract prices: for furnishing and driving steel sheet piling in place, \$80 for each ton in the completed work; for furnishing materials for constructing the concrete sea wall and stair wells, including forms, tie rods, steel reinforcement, excavation and all incidental work, \$15 for each cubic yard of concrete measured in place in the completed work; for furnishing and placing granite stone riprap and chips against the sea side of the sea wall, \$2.20 for each ton of 2,000 pounds of granite stone riprap and chips in place in the completed work; for furnishing materials for filling in place back of the sea wall, 60 cents for each cubic yard of material measured in place in the completed work; for furnishing and setting each granite stone step in place, \$18 for each granite stone step furnished in place in the completed work. No work has yet been done under this contract.

SALISBURY DIKE

The Salisbury Reclamation District made in March the taking necessary to acquire the land for the construction of the dike and incidental structures authorized by Chapter 399 of the Acts of 1935.

A contract with A. A. Hersey and Son Company was made April 1, 1936, for building a pile and timber bulkhead or dam, a concrete tide gate chamber, boat roll-way and filling in Blackwater Creek, at the unit prices stated in the contract. This work was completed Sept. 30, 1936, at a contract cost of \$11,668.87.

The Department has filed an application for Federal funds to allow the placing of riprap and sod upon the slopes of the dike and the raising of the height of adjacent dikes built under the provisions of the Emergency Relief Administration by the Salisbury Reclamation District. As a part of the work necessary is in the State of New Hampshire, the approval of the project has been delayed.

SAUGUS RIVER, REVERE

In July the Department received a request from the Point of Pines Yacht Club for the removal of rocks in the Saugus River channel opposite its club house. An investigation by the engineer showed several yards of loose boulders lying above a ledge and constituting a menace to small boats using the channel.

A letter contract with the Crandall Engineering Company was made on Aug. 24, 1936, for the removal of these boulders for the sum of \$740. The work was completed Sept. 19, 1936, at a contract cost of \$740.

SCITUATE HARBOR, SCITUATE

The dredging in Scituate Harbor under contract of Oct. 4, 1935, with the Bay State Dredging and Contracting Company was completed Dec. 19, 1935, at a contract cost of \$22,739.94. This cost was paid from funds made available by Chapter 464 of the Acts of 1935.

SCITUATE SEA WALLS

A letter contract was made on Nov. 25, 1936, with Frank H. Barry to provide for minor repairs to the sea walls at Scituate. Materials for the work are to be supplied by the Department, while the contractor is to furnish all labor and equipment on the basis of actual cost plus ten per cent. The total cost, including labor, materials and inspection, is not to exceed \$2,000. This work is now in progress.

SMITH'S COVE, GLOUCESTER

The work of dredging in Smith's Cove, under contract of Oct. 4, 1935, with the J. S. Packard Dredging Company, was completed Dec. 23, 1935. The original project for improvement was extended during the progress of the work to include the dredging of a channel 100 feet wide on the bottom and 10 feet deep at mean low water from the dredged area to a landing pier at the head of Smith's Cove. The contract cost of the whole work was \$37,714.68. This cost was paid from funds made available by Chapter 464 of the Acts of 1935.

TRURO SHORE PROTECTION

Pilgrim Beach

Hearing was held June 3, 1936, upon a petition of the Selectmen of Truro for the construction of stone jetties on the shore of Cape Cod Bay at Pilgrim Beach.

On Aug. 26, 1936, a contract was made with George M. Bryne to build three stone jetties on the shore of Pilgrim Beach at a contract price of \$4.73 for each ton of 2,000 pounds of granite stone riprap and granite chips furnished and placed in the completed work. This project was completed Nov. 11, 1936, at a contract cost of \$3,796.06. Toward this cost contributions of \$1,000 each were made by the town and the county.

VINEYARD HAVEN HARBOR, TISBURY

Hearing was held Jan. 23, 1936, upon a petition of the Selectmen of Tisbury for dredging in Vineyard Haven Harbor in extension of the work to be carried out by the Federal Government.

The dredging requested is to be done as a P.W.A. project toward the cost of which a contribution of 45% is to be made by the Federal Government.

WAQUOIT BAY, FALMOUTH

Hearing was held Jan. 23, 1936, upon a petition of Charles L. Swift for dredging and the construction of a jetty at Waquoit Bay.

On Oct. 27, 1936, a contract was made with Frederick V. Lawrence to build a stone jetty on the westerly side of the entrance to Waquoit Bay at a contract price of \$3.24 for each ton of heavy stone riprap and stone chips furnished and placed in the completed work. Toward the cost of this work a contribution of \$10,000 has been made by the town of Falmouth.

WEST CHOP, TISBURY

In May a request was received by the Department for the extension of the protective work recently carried out at West Chop. An investigation by the engineer showed a considerable erosion taking place westerly of the protection already provided.

A contract was made on Nov. 25, 1936, with Frederick V. Lawrence to place riprap along the bank at a contract price of \$5.10 for each ton of 2,000 pounds of stone riprap or chips furnished in place in the completed work. Toward the cost of this project a contribution of \$1,000 has been made by the town and contributions amounting to \$2,000 by the owners of property involved.

WEST FALMOUTH HARBOR, FALMOUTH

The work of dredging a channel in West Falmouth Harbor under contract of May 21, 1935, with Herbert T. Gerrish was completed June 1, 1936. Toward the cost of the work a contribution of \$5,000 was made by the town of Falmouth.

During the progress of the dredging certain old piles and timber debris from the wreckage of the timber breakwater at West Falmouth Harbor, were found obstructing the entrance channel and were deposited by the contractor upon the beach at Chappaquoit Island. In response to complaints from the owners of the property a letter contract was made on May 19, 1936, with Arthur C. Burke for removal of the debris. This work was completed May 31, 1936, at a contract cost of \$35.

WITCHMERE HARBOR, HARWICH

Hearing was held Jan. 23, 1936, upon a petition of the Selectmen of Harwich for dredging the entrance to Witchmere Harbor.

A letter contract was made on July 2, 1936, with Herbert T. Gerrish for dredging about 4,000 cubic yards of material from the entrance channel to Witchmere Harbor at a contract price of 67 cents per cubic yard, including the disposal of material along the shore on the east side of the easterly jetty. This work was completed Oct. 14, 1936, at a contract cost of \$2,680. Toward this cost a contribution of \$1,500 was made by the town of Harwich.

At the request of the Selectmen the Department in October authorized a survey to determine the cost of extending the jetty at Witchmere Harbor and of dredging westerly of the extension.

YARMOUTH SHORE PROTECTION

A contract was made on Oct. 6, 1936, with J. W. Nickerson for placing about 1,575 tons of heavy stone riprap and about 425 tons of stone chips along the shore at South Yarmouth Beach, at a contract price of \$2.99 for each ton of stone riprap and stone chips furnished and placed in the completed work. This project is now in progress. Toward the cost of this protection of the shore contributions of \$2,000 each have been made by the town and the county.

Miscellaneous

GREAT PONDS

Jurisdiction over great ponds belonging to the Commonwealth was conferred upon the Board of Harbor and Land Commissioners by Chapter 318 of the Acts of 1888. This act applies to ponds containing in their natural state ten or more acres of land. Authority to sell and convey or lease, subject to the approval of the Governor and Council, any of the islands owned by the State in great ponds was later given by Chapter 379 of the Acts of 1904, now section 2 of Chapter 91 of the General Laws.

During the year the Department has considered matters relating to: Benson's Pond, Middleborough; Benton Pond, Otis; Blackmore's Pond, Wareham; Cedar Dell Pond, South Dartmouth; Farm Pond, Sherborn; Great Pond, Otis; Lake Archer, Wrentham; Lake Pearl, Wrentham; Lake Winthrop, Holliston; Laurel Lake, Lee; Lead Mine Pond or Quassac Lake, Sturbridge; Manchaug Lake, Douglas; Onota Lake, Pittsfield; Turkey Hill Lake, Rutland; Wolomolopog Pond, Sharon. Surveys were made this year of the following great ponds:

White Pond, Chatham

Area at time of survey	39.98 acres
Natural pond area	39.98 acres

Prospect Lake, Egremont

Area at time of survey	59.57 acres
Natural pond area	38.85 acres

Water level of this lake is controlled by dam at the outlet.

Access to Great Ponds

During the year two petitions have been received, each signed by ten citizens of the Commonwealth requesting the establishment of a right of way for public access, one to Three Mile Pond, or Brush Hill Pond, in the town of Sheffield, and the other to White Pond in the town of Chatham. As surveys of these ponds appear necessary before public hearing is held, no further action has yet been taken.

BENSON'S POND, MIDDLEBOROUGH

On Oct. 13, 1931, the Department, acting under the provisions of Chapter 243 of the Acts of that year, executed a deed to George A. Cowen conveying to him all the right, title and interest of the Commonwealth in Benson's Pond. This deed was approved by the Governor and Council on Oct. 21, 1931.

The conveyance provided that the work shown upon the plan submitted by Mr. Cowen should be carried out within five years, and that unless the draining and developing of the entire pond area for cranberry culture is completed within that period, all right, title and interest in the property shall revert to the Commonwealth.

George A. Cowen was unable to do the work required within the stated period and before the expiration of the deed asked that further time be granted for completion of the project. A deed has, accordingly, been given, with the approval of the Governor and Council, requiring the completion of the work within five years from Oct. 21, 1936.

PROVINCE LANDS

The territory belonging to the Commonwealth known as the Province Lands at Provincetown comprises about 3,810 acres lying northerly and westerly of a line described in Chapter 470 of the Acts of 1893. By the terms of this act the Board of Harbor and Land Commissioners was given general care and supervision of this area.

Reclamation work under the direction of a superintendent has been carried on since 1894. The movement of sand has been checked in recent years by covering the dunes with brush which affords enough protection for the natural re-seeding of beach grass. This work is followed by the transplanting of shrubs and trees. Bayberry has been found very valuable for this purpose, particularly along the top of the slopes of the dunes.

During the year work has been carried on in accordance with these methods. About five acres of sand dunes have been covered with brush, 10,000 native pitch pine trees have been transplanted and 80,000 Scotch pine and 200 bayberry shrubs planted.

About nine acres of forest area, previously burned, have been cleared of dead trees and brush to reduce the fire hazard and provide for the new growth.

The work of destroying the brown tail and gypsy moths upon these lands has been continued during the year.

The sand dike at Race Run has been repaired, parking areas kept in condition, about 200 feet of rustic fence built along the beach near Wood End Light, one mile of combination fire stop and truck trail constructed with sand piles at intervals along the way, and water holes established last year have been deepened.

The sum of \$177 has been paid into the State Treasury during the year from licenses issued for cultivating and picking cranberries on the bogs and for mowing meadows and from permits for occupying areas on these lands.

STATE BOUNDARY LINES

During the year sections of the New York-Massachusetts boundary line, which were found badly overgrown with brush during the perambulation made in 1935, were again examined and several miles of brush cleared from the line to permit easier access for future examinations.

TOWN BOUNDARY LINES

During the year ranges were set for the exterior line of the town of Wellfleet to define the boundary line of the town in tide water. A survey has been made of a portion of the Andover-North Reading boundary line and one bound stone re-set.

The boundary line in the tide waters of Lagoon Pond between the towns of Oak Bluffs and Tisbury was re-established by Chapter 145 of the Acts of 1935, and marked in that year. At the request of the Selectmen of Tisbury the positions of the buoys set in 1935 were checked again in 1936.

CONSERVING AND EQUALIZING THE FLOW OF WATER IN RIVERS AND STREAMS

By Chapter 359 of the Acts of 1909, Chapter 564 of the Acts of 1912, and Chapter 84 of the Resolves of 1917, co-operation was established between the Commonwealth and the Water Resources Branch of the United States Geological Survey, so that results of work relating to the gauging of streams within the Commonwealth and other work of a similar character carried on by the said survey have been obtained for use by the Department and are available for other Departments of

the Commonwealth. Toward the cost of this work the Department has paid during the year, \$5,000.

RE-ESTABLISHMENT OF CERTAIN TRIANGULATION STATIONS

By section 33 of Chapter 91 of the General Laws, the Department is authorized to make such surveys and to do such other work as may be required by any order of the Land Court, to re-establish and permanently mark certain triangulation points and stations previously established in connection with the topographical survey of the Commonwealth, and the town boundary survey, which have been lost or destroyed, and to obtain the geographical position of such new points and stations as may be required from time to time by the Court.

During the year several miles of base line were run on the island of Nantucket by survey parties operating under the provisions of the W.P.A. The funds provided for re-establishing triangulation points were used to meet the expenses of these survey parties.

LICENSES AND PERMITS

During the year 101 licenses were granted for work to be done in tide waters, great ponds, Connecticut River and Merrimack River and 154 permits for miscellaneous purposes. The Department also approved 97 permits granted by cities and towns for the construction and maintenance of fish weirs in tide water.

EXPENDITURES FOR DEVELOPMENT AND IMPROVEMENT IN BOSTON HARBOR
1859-1936, INCLUSIVE

<i>Payments</i>	<i>To Nov. 30, 1935</i>	<i>1936</i>	<i>Total</i>
Boston Harbor:	\$1,775,443 46 ¹	—	
Maintenance of Property		—	
Dredging and Filling		\$25,268 81	
Special Appropriations		101,254 13	\$1,901,966 40
Commonwealth Flats:			
East Boston	3,093,326 83 ²	—	3,093,326 83
South Boston	4,892,123 69	—	4,892,123 69
Castle Island:	749,734 74		
Dredging and Filling		3,196 72	752,931 46
Commonwealth Pier No. 5: South Boston:			
Construction	4,014,790 45	—	4,014,790 45
Maintenance	883,966 38	204,750 00 ⁸	1,508,501 31
Dredging	61,323 75	78,301 19	139,624 94
Operation and Supervision	1,942,849 01	130,449 19	2,073,298 20
Commonwealth Pier No. 1: East Boston:			
Construction	1,199,703 23	—	1,199,703 23
Operation and Supervision	127,987 12	2,206 66	130,193 78
Maintenance	37,037 36	—	37,037 36
Commonwealth Pier No. 6: South Boston:			
Construction	1,092,149 06	—	1,092,149 06
Maintenance	51,937 90	—	51,937 90
Dry Dock	3,169,651 15 ³	—	3,169,651 15
Hayward Creek	385,979 61 ⁴	—	385,979 61
Mystic River	514,026 75 ⁵	—	514,026 75 ⁷
Malden River	33,002 84 ⁶	—	33,002 84
Chelsea Creek	61,094 35	51 08	61,145 43
Commercial Point—Dorchester Bay	53,213 10	—	53,213 10
Maintenance of Property (in addition to maintenance items listed above)	453,089 00	34,327 24	487,416 24
	\$24,592,429 78	\$999,589 95	\$25,592,019 73

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- ¹ Expenditure includes contribution by Quincy Market Cold Storage and Warehouse Corporation in 1921 \$4,000 00
Bethlehem Shipbuilding Corporation in 1930 10,000 00
- ² Expenditure includes contribution by the City of Boston in 1926, authorized by Chapter 385, Acts of 1926 10,000 00
- ³ Additional amount paid by the State Treasurer from Development of the Port of Boston Loan Sinking Fund in settlement of claims 17,877 73
- ⁴ Expenditures include contributions by Massachusetts Oil Refining Company and Bethlehem Shipbuilding Corporation 38,600 00
Additional amount paid by State Treasurer for land taking 3,725 27
- ⁵ Expenditure includes contribution by Merrimac Chemical Company in 1920 15,000 00
in 1922 4,812 50
- ⁶ Commonwealth's funds expended by the United States Government 31,000 00
Contribution by Standard Oil Company of New York in 1922, expended by the Commonwealth 600 00
- ⁷ Expenditure includes transfer from Small Harbors and Channels Table 5,927 70
- ⁸ United States Government contribution.

EXPENDITURES AND CONTRIBUTIONS FOR IMPROVEMENT OF SMALL HARBORS AND CHANNELS WITHIN BOSTON HARBOR, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS, FROM 1893 TO 1936 INCLUSIVE

<i>Locality and Character of Work</i>	Contri- butions 1936	Total Contri- butions	Expendi- tures 1936	Total Expendi- tures
Cottage Park Channel, Winthrop—Dredging . . .	\$4,000 00	\$10,250 00	\$16,974 99	\$54,942 28
Dorchester, Easterly Shore—Dredging and Survey . . .	—	1,000 00	—	210,767 61
Harbor View—Dredging . . .	—	—	—	146 00
Hingham Harbor—Dredging . . .	—	6,500 00	—	41,595 12
Houghs Neck, Quincy—Dredging, Survey and Seawall . . .	—	7,500 00	18,964 79	74,130 48
Island End River, Everett—Survey . . .	—	—	—	264 10
Jeffries Point Channel—Dredging . . .	—	—	—	4,563 93
Mystic River (near Lawrence and Wiggin Wharf)—Dredging ¹ . . .	—	—	—	—
Neponset River—Dredging . . .	—	10,000 00	—	109,401 63
Old Harbor Cove—Dredging . . .	—	—	—	10,520 48
Orient Heights Channel—Dredging . . .	—	—	—	45,412 38
Pemberton Point, Hull—Breakwater . . .	—	60,000 00	—	91,195 01
Pleasant Park Yacht Club Channel—Dredging . . .	6,187 50	9,187 50	26,399 22	75,134 61
Point Allerton, Hull—Seawall . . .	—	50,000 00	—	75,127 05
Point Shirley, Winthrop . . .	—	—	—	3,713 37
Quincy Bay—Dredging . . .	—	10,150 00	104 52	84,266 99
Shirley Gut, Boston and Winthrop—Dredging . . .	—	—	—	2,432 34
South Boston, Southerly Shore—Dredging . . .	—	—	—	129,542 08
Stony Beach, Hull—Seawall and riprap . . .	—	8,000 00	—	28,658 05
Town River, Quincy—Survey and Dredging . . .	—	16,050 00	8,481 97	116,760 66
Weir River, Hull—Dredging . . .	—	45,000 00	—	205,336 48
Wessagusett Channel—Dredging . . .	—	—	—	815 20
Weymouth Fore River—Dredging . . .	—	8,250 00	48,918 77	119,025 39
Winthrop Harbor Channels—Dredging . . .	—	20,567 00	—	91,169 11
	\$10,187 50	\$262,454 50	\$119,844 26	\$1,574,920 35

EXPENDITURES AND CONTRIBUTIONS FOR RIVER AND HARBOR WORK
FROM DECEMBER 1, 1935 TO NOVEMBER 30, 1936

<i>Locations and Character of Work</i>	Contributions	Expenditures
Allen's Harbor, Harwich—Survey and Dredging . . .	—	\$5,193 60
Barlow's River, Pocasset Harbor, Bourne Survey . . .	—	89 03
Cape Cod Canal Pier—Construction . . .	—	34,663 77
Cape Cod Canal Pier—Operation and maintenance . . .	—	4,615 41

¹ See Mystic River under Boston Harbor Table.

<i>Locations and Character of Work</i>	<i>Contributions</i>	<i>Expenditures</i>
Centerville River	—	49 03
Connecticut River, Chicopee, W.P.A.	—	4,258 14
Connecticut River—Surveys	—	3,209 74
Connecticut River—Deerfield, W.P.A.	—	250 96
Connecticut River—Hadley, W.P.A.	—	851 06
Connecticut River—Hatfield, W.P.A.	—	415 59
Connecticut River—Montague, W.P.A.	—	1,121 49
Connecticut River—Northfield, W.P.A.	—	362 07
Connecticut River—Northampton, W.P.A.	—	631 76
Connecticut River—South Hadley, W.P.A.	—	4,538 12
Connecticut River—Springfield and West Springfield, W.P.A.	—	1,981 75
Connecticut River—Sunderland, W.P.A.	—	287 90
Dennisport	\$1,200 00	2,047 25
East Bay, Osterville and Barnstable	9,000 00	6,663 83
Ellisville Harbor, Plymouth	—	156 00
Fall River Harbor	—	361 30
Falmouth Inner Harbor, Falmouth	—	10,696 76
Old Silver Beach, Herring River—Falmouth	—	37 73
West Falmouth Harbor, Falmouth	547 00	12,146 32
Wild Harbor, Falmouth	—	30 00
Falmouth (opposite Shore Street)	1,500 00	1,711 60
Gloucester Fish Pier	—	847 15
Great Ponds	—	449 18
Gun Rock Point, Hull	—	870 39
Harwichport Beach	4,400 00	3,029 61
Herring River, Harwich	—	1,642 98
Hyannisport (Squaw Island Road) Barnstable	—	4,748 31
Hyannisport (Squaw Island Road) Barnstable	—	12,886 20
Lewis Bay (Hyannis) Barnstable	—	10,747 73
Manchester Harbor, Manchester	20,000 00	46,970 01
Marine Borer Investigations	—	567 35
Manomet Point Plymouth	—	450 00
Megansett Harbor, Bourne and Falmouth	12,000 00	188 94
Menamsha Inlet	—	29,288 21
Nantucket (Hither Creek)	—	11,319 43
New Bedford State Pier, Operation	—	12,483 95
New Bedford State Pier, Construction and Dredging	—	5,613 05
Oak Bluffs, Sea Wall, bulkhead and jetties	—	13,572 24
Onset Bay, Wareham	—	\$63,360 60
Plymouth Harbor	—	15,656 53
Plymouth Memorial Park, dredging and maintenance	—	14,109 26
Popponessett Bay, Barnstable - Mashpee	5,000 00	376 50
Province Lands	—	4,993 60
Provincetown Harbor	—	20,375 76
Rock Harbor, Orleans	1,000 00	3,220 16
Roughan's Point, Revere	42,500 00	968 70
Blackwater Creek, Salisbury	—	13,820 14
Saugus River, Lynn-Saugus	—	783 15
Scituate Harbor, Scituate	—	12,439 00
North Scituate, Surfside	—	292 69
Smith's Cove, Gloucester	—	22,968 03
South Hyannis, Barnstable	—	15,550 50
South Pier, Marshfield and Scituate	—	281 11
South Yarmouth Beach, Yarmouth	4,000 00	1,672 26
Taunton River, Taunton	—	238 71
Inspection Tidewater Structures outside Boston Harbor	—	1,213 89

<i>Locality and Character of Work</i>	Contributions	Expenditures
North Truro	—	—
Pilgrim Beach	2,000 00	3,902 15
Waquoit Bay, Falmouth and Mashpee	10,000 00	1,803 60
Water Conservation	—	5,000 00
West Chop, Tisbury	—	136 75
Witchmere Harbor, Harwich	1,500 00	2,583 19
Engineering Unclassified	—	11,707 80
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	\$114,647 00	\$470,077 02

EXPENDITURES AND CONTRIBUTIONS FROM 1893 TO 1936, INCLUSIVE, FOR RIVER AND HARBOR WORK, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS (EXCEPTING BOSTON HARBOR)

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Acushnet Harbor, inspection and dredging	—	\$119,810 10
Allens Harbor, Harwich, shore protection, dredg- ing, riprap and jetties	\$20,927 50	56,571 97
Allens Pond, Dartmouth, survey	—	195 95
Angle Tree Monument (Reservation)	—	1,306 22
Annisquam River, Gloucester, dredging, removing ledges and riprap	13,250 00	171,498 69
Apponagansett Harbor and River, Dartmouth, survey, dredging and stone breakwater	—	55,786 05
Barlows River, Pocasset Harbor, Bourne	—	296 82
Barnstable Harbor, Barnstable, dredging	7,500 00	30,693 16
Bass River, Beverly, dredging	57,535 75	84,953 51
Bass River, Dennis and Yarmouth, jetties, dredg- ing and survey	25,095 00	192,092 22
Beach Street, Scituate—see Scituate	—	—
Beverly Harbor, Beverly, dredging	—	50,000 00 ¹
Brant Rock, Marshfield, shore protection	111,503 66	231,026 89
Brewster, Skaket Inlet, survey	—	617 19
Buck's Creek, Chatham, jetties, survey, and dredging	2,500 00	39,719 69
Buzzards Bay, Falmouth, survey	—	166 11
Cape Cod Canal Pier, Bourne, construction	—	298,930 99
Cape Cod Canal Pier, Bourne, operation and maintenance	—	15,640 59
Cape Poge, Edgartown, cut through beach, dredg- ing, jetties, and riprap	16,500 00	60,636 03 ²
Cataumet Harbor—see Megansett Harbor	—	—
Cedar Point, Scituate—see Scituate	—	—
Centerville River, Barnstable, dredging	19,711 50	44,378 80
Chatham, riprap and surveys	10,500 00	19,853 19
Cohasset Harbor, Cohasset, breakwater and dredging	42,691 88	116,191 93
Concord River, Billerica, removing boulders	150 00	1,664 59
Connecticut River, Agawam, protective work	—	18,814 42
Connecticut River, Chicopee, survey, wall, and riprap	640 00	30,047 16
Connecticut River, Deerfield, survey, wall and riprap	—	1,478 27
Connecticut River, investigation of navigation and surveys	—	12,088 70
Connecticut River, Greenfield survey and riprap	—	1,607 76

¹ State funds expended under direction of United States Government.

² \$17,543.96 expended from United States Government funds (Emergency P.W.A.).

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Connecticut River, Hadley, survey, diversion wall and riprap	\$7,000 00	125,447 60 ³
Connecticut River, Hatfield, dikes and riprap	1,000 00	51,984 07
Connecticut River, Holyoke, dredging and protective work	1,991 29	9,253 27
Connecticut River, Holyoke, marking and lighting old piers	—	1,195 32
Connecticut River, Montague	—	1,121 49
Connecticut River, Northfield, survey and protective work	—	14,630 73
Connecticut River, Northampton, riprap	—	1,524 20 ⁴
Connecticut River, Northampton, riprap	—	1,249 13
Connecticut River, South Hadley, wall	1,000 00	11,917 70
Connecticut River, Springfield and West Springfield, protective work	—	16,999 60 ⁵
Connecticut River, Sunderland	—	287 90
Conservation of Waters, investigation	—	98,764 54
Cotuit Harbor, Barnstable, dredging, survey and bulkhead repairs	17,845 10	92,828 26
Cuttyhunk Harbor, Gosnold, jetties and dredging	10,000 00	83,935 78
Deacon Pond Harbor—see Falmouth Inner Harbor		
Dennis:		
Dennisport, stone jetty	2,400 00	4,362 72
Nobscusset Harbor, breakwater and riprap	6,710 00	48,564 29
North Dennis stone jetty	1,200 00	4,819 70 ⁷
Swan Pond River, stone jetties	1,750 00	3,906 74
West Dennis, stone jetty and survey	750 00	1,709 03
Duxbury Bay and Harbor, dredging and survey	35,000 00	109,104 31
East Bay, Osterville, jetties, dredging and removing scows	19,000 00	77,633 58
Edgartown Harbor, Edgartown, survey and cut in beach	300 00	3,496 64
Ellisville Harbor, Plymouth, dredging and jetty repairs	—	\$21,264 64
Essex County Beaches, survey	—	1,000 00
Essex River, Essex, dredging	—	76,304 33 ⁶
Fall River Harbor, improvement	—	1,491 48
Falmouth, Great Pond, channel excavation and jetty	5,000 00	10,508 89
Falmouth Heights, Falmouth, survey, sea wall and riprap	23,460 04	73,351 19
Falmouth Inner Harbor, dredging, jetties, wall and riprap	33,500 00	164,976 39
Falmouth, Menauhant Shore, bulkheads, jetties, and riprap	3,100 00	6,075 33
Falmouth, Old Silver Beach (Herring River) stone jetty	2,000 00	3,107 03
Falmouth (opposite Shore Street)	1,500 00	1,711 60
First and Second Cliffs, Scituate—see Scituate		
Fresh Water Cove, Gloucester, dredging	3,300 00	17,477 53
Gay Head, survey	—	555 42
Geological Survey Trust Fund	3,000 00	3,000 00
Glades, North Scituate—see Scituate		
Gloucester Fish Pier	—	1,244 06

³ From 1888, inclusive.⁴ This location is now part of Holyoke.⁵ From 1891, inclusive.⁷ Transferred \$2,603.37 from Nobscusset Harbor, Dennis.⁶ Includes \$5,000.00 expended by United States Government.

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Gloucester, Western Avenue, sea wall	35,000 00	60,000 00
Gloucester Harbor, Gloucester, dredging and removing ledges	15,000 00	148,802 79
Great Head, Winthrop—see Winthrop Shore	—	30,983 49
Great Ponds, survey	—	—
Green Harbor, Marshfield, jetties, dredging and survey	42,500 00	167,361 13
Gun Rock Point, Hull, breakwater and sea wall repairs	16,135 41	78,809 72
Harbor Cove, Gloucester, survey and dredging	3,866 00	25,155 04
Harwichport Beach, Harwich, shore protection	10,400 00	12,418 68
Harwich Shore near Chatham Line, stone jetty	350 00	1,206 75
Harwich Shore, Chatham to Dennis, survey	—	2,040 01
Herring Creek, Scituate	—	253 76
Herring River, Harwich, jetties, dredging and riprap	38,300 00	138,312 20
Herring River, Wellfleet	10,000 00	44,714 55
Hoosac River, North Adams, excavation and survey	—	\$21,271 67
Housatonic River, Sheffield, survey	—	2,011 29
Hull, seawall and jetties	8,882 06	42,093 96
Humarock Beach, Scituate—see Scituate	—	—
Hyannis Harbor, Barnstable, bulkhead, dredging and riprap	21,750 00	45,582 46
Hyannisport, Squaw Island Road, Barnstable	2,700 00	5,398 43
Hyannisport, Barnstable, survey and breakwater	20,500 00	101,465 33
Hyannisport, Halls Creek, Barnstable survey	—	112 00
Improvement of Rivers and Harbors, general expenses	—	85,604 04
Ipswich River, Ipswich, jetty wall, riprap and dredging	3,800 00	60,087 07
Kings Beach, Swampscott, removal of obstruction	—	166 41
Lagoon Pond, Tisbury and Oak Bluffs, survey, dredging, and jetty	13,500 00	26,075 99
Lake Anthony, Oak Bluffs, survey, dredging and jetties	16,000 00	111,457 28
Lake Quannapowitt, Wakefield, investigation	—	345 32
Lake Quinsigamond, Worcester, investigation	—	1,760 56
Lake Tashmoo, Tisbury, survey	—	432 88
Lewis Bay, Barnstable, survey, and dredging	18,809 29	77,622 06
Little Harbor, Cohasset, survey	500 00	1,476 77
Little Harbor, Marblehead, dredging	2,500 00	11,166 16
Little Harbor, Gloucester, survey	—	862 93
Lobster Cove, Gloucester, dredging	4,500 00	61,603 36
Long Beach, Rockport, seawall	27,700 00	57,306 56
Lynn Harbor, Lynn, anchorage basin, survey, and dredging	5,200 00	121,609 22
Lynn Harbor and Saugus River, dredging and filling	37,500 00	165,932 29
Manchester Harbor, Manchester, survey, jetties and dredging	103,000 00	254,551 76
Manomet Point, Plymouth, riprap and fill	7,250 00	14,370 20
Marine Borer Investigations	—	1,322 78
Marshfield-Duxbury, survey	—	358 61
Mattapoisett Harbor, survey	—	255 48
Megansett Harbor, Bourne and Falmouth, dredg- ing	25,330 00	53,648 78

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Menamsha Inlet Chilmark and Gay Head, jetties, dredging, seawall and riprap	2,700 00	183,282 92
Merrimack River investigation	—	1,208 50
Merrimack River Mouth, Newburyport, survey	—	111 87
Mill River, Gloucester	300 00	24,899 59
Mitchells River, Chatham	6,000 00	23,113 92
Monument Beach, Bourne, survey	—	326 40
Nahant, survey and riprap	15,000 00	30,177 19
Namequoit River and Pleasant Bay, Chatham, dredging	6,250 00	31,943 68
Nantucket Harbor, dredging	5,000 00	58,982 52
Nantucket, Hither Creek, survey and dredging	—	11,539 88
Nantucket, survey of Sesachacha Pond	—	110 66
Nauset Harbor and Town Cove, Orleans, dredging	2,000 00	10,671 24
New Bedford Harbor, dredging	—	18,856 57
New Bedford State Pier, shed, dredging, repairs and alterations	13,446 74 ⁸	568,547 24
New Bedford State Pier, operation and mainte- nance	—	102,055 94
Newburyport Harbor, survey	—	115 97
Nobscusset Harbor, Dennis—see Dennis		
North Dennis—see Dennis		
North River, Marshfield, survey and removing rocks	1,800 00	8,658 75
North River, Salem, survey	—	719 45
North Scituate—see Scituate		
Oak Bluffs, removing rocks	—	594 95
Oak Bluffs, seawalls, bulkhead and jetties	60,000 00	174,329 48
Ocean Grove, Swansea, survey	—	143 23
Onset Bay, Wareham, survey and dredging	1,000 00	79,227 15
Orleans, survey	—	104 18
Palmers Pond, Falmouth, survey	—	358 76
Pamet River, Truro, survey, dredging, and re- pairing jetties	1,200 00	198,429 21
Paskamansett River, Dartmouth, dredging and jetty	—	5,227 68
Penikese Island, Gosnold, pile wharf and survey	—	5,192 95
Pines River, Revere and Saugus, survey	—	904 80
Pleasant Bay, Chatham, dredging	600 00	2,364 33
Plum Island River, Newbury and Newburyport, survey	—	983 31
Plymouth Harbor, dredging and removing old piling	92,794 55 ⁹	368,417 27
Plymouth Memorial Park, dredging and mainte- nance	—	100,828 52
Point Shirley, Winthrop—see Winthrop Shore		
Pononessett Bay, Barnstable and Mashpee, dredg- ing	5,000 00	46,628 83
Powow River, Amesbury, dredging channel and riprapping wall	—	502 94
Province Lands, Provincetown, reclamation	—	181,270 41
Provincetown Harbor, shore protection	2,575 00	65,678 75
Quamquisset Harbor, Falmouth, survey	—	710 31
Quanset Harbor, Orleans, survey and dredging	500 00	2,194 50
Red Brook Harbor, Bourne, removing pier	—	275 00
Revere, stone breakwater	—	60,397 93

⁸ Paid by Surety Company.⁹ \$57,000 expended under direction of United States Government.

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Rock Harbor, Orleans, timber bulkhead platform and dredging	11,400 00	40,973 93
Rockport Harbor, Rockport, dredging, and removing rocks	4,750 00	32,945 41
Roughans Point, Revere	42,500 00	1,219 35
Sagamore Beach, Bourne, stone jetties, and riprap	5,000 00	10,591 83
Salem Harbor, Salem, survey	—	1,509 92
Salisbury Beach, survey	—	5,051 52
Salisbury, Black Water Creek	—	13,820 14
Salt Pond River, Eastham, survey	—	210 11
Salters Point, Dartmouth, breakwater	4,500 00	42,939 57
Sand Hills, Scituate—see Scituate		
Sandwich Harbor, Sandwich, dredging channel, riprap and jetties	—	80,579 84
Saugus River, Lynn and Saugus, survey and dredging	2,000 00	21,638 76
Scituate, shore protection	75,000 00	—
Beach Street, Scituate, wall and breakwater	17,333 52	34,782 50
Cedar Point, Scituate, wall and breakwater	21,446 64	41,298 70
First and Second Cliffs, Scituate wall and riprap	2,797 92	19,553 12
Glades, North Scituate, filling and riprap	13,250 78	40,164 61
Humarock Beach, Scituate, survey wall and jetties	37,816 38	83,583 74
North Scituate, Surfside, seawall jetties and riprap	2,194 68	34,704 89
Sand Hills, Scituate, survey, wall, and jetties	6,011 26	38,170 07
Third Cliff, Scituate, riprap and survey	75,193 10	139,384 98
General Surveys at Scituate	—	543 73
Shore Acres, Scituate, riprap	—	20,488 98
Sand Hills to Shore Acres, seawall, jetties, and riprap	—	33,490 52
Scituate Harbor, dredging and surveys	53,300 00	229,942 61
Scorton Harbor, Sandwich, jetty and dredging	500 00	17,774 34
Seapuit River, Barnstable, dredging	13,000 00	25,110 95
Sengekontacket Pond, Oak Bluffs, survey	—	329 28
Sesuit Harbor, Dennis, jetty	1,500 00	24,555 10
Shirley Gut, Winthrop, survey	—	201 06
Singing Beach, Manchester, survey and riprap	7,562 50	12,732 92
Sippican Harbor, Marion, survey	—	615 66
Smiths Cove, Gloucester, survey and dredging	3,875 00	52,752 34
South Harwich, stone jetties and riprap	2,500 00	5,351 97
South Hyannis, Barnstable, survey, seawall and jetties	7,987 34	15,591 65
South River, Marshfield and Scituate, survey	—	1,005 96
South River, Salem, dredging	3,000 00	13,462 66
South Watuppa Pond, Fall River, fenders and excavation	—	203 42
South Yarmouth Beach, Yarmouth, jetties	9,000 00	10,153 12
Stage Harbor, Chatham, dikes and survey	—	14,901 80
Stream Gauging—see Conservation of Waters		
Swampscott, survey	—	103 46
Swan Pond River, Dennis—see Dennis		
Taunton-Brockton, waterway investigation	—	5,278 18
Taunton River, survey and dredging	42,500 00	31,800 66
Taunton River, Boston Harbor Canal, survey	—	9,932 75
Taunton River, Massachusetts Bay Canal, survey	—	11,786 71
Tidewater Structures, Outside Boston Harbor, inspection	—	1,213 89

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Truro Beach, survey	—	71 74
Truro, Pilgrim Beach, jetties	2,000 00	3,902 15
Vineyard Haven Harbor, Tisbury, breakwater and dredging	1,000 00	45,518 25
Vineyard Haven Harbor, repairing seawalls	2,380 50	11,945 01
Waquoit Bay, Falmouth, breakwater, wall, bulk- head and dredging	27,500 00	109,531 19
Wareham River, Wareham, survey and dredging	5,000 00	42,567 93
Warrens Cove, Plymouth, sea wall and survey	15,213 98	38,412 87
Watch Hill, Chatham, survey and riprap	—	14,968 75
Water Conservation—see Conservation of Waters		
Wellfleet Harbor, Wellfleet, survey and dredging	1,500 00	17,600 29
West Bay, Barnstable and Osterville, dredging, jetties and riprap	17,216 35	120,337 08
West Chop, Tisbury, stone jetties	6,500 00	13,182 28
West Dennis Beach—see Dennis		
West Falmouth Harbor, Falmouth, surveys, dredging and breakwater	24,520 75	81,253 37
West Harwich Beach, Harwich, shore protection	6,400 00	27,242 50
Western Avenue Seawall, Gloucester—see Gloucester		
Westfield River, Westfield, survey and jetties	—	6,037 29
Westport Harbor, Westport, jetty extension and repairs	—	21,928 88
Westport River, Westport	—	476 70
Wild Harbor, Falmouth, jetty and dredging	15,000 00	55,158 66
Winthrop Shore, Winthrop, seawalls and protec- tion	81,500 00	341,698 89
Wychmere Harbor, Harwich, jetties and dredging	8,000 00	72,611 10
Woods Hole, Great Harbor, Falmouth, dredging	1,500 00	6,968 86
Wrecks, removal from tide water	—	21,803 04
Yarmouthport Harbor, survey and dredging	7,000 00	95,977 37
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	\$1,904,601 47	\$9,580,608 05

FEDERAL APPROPRIATIONS AND EXPENDITURES

Federal appropriations and expenditures for improvement of rivers and harbors in Massachusetts from the establishment of the government to the close of the fiscal year ending June 30, 1936, are shown in the following tables furnished by the Chief of Engineers, U. S. Army:—

TABLE NO. 1—*Localities at Present Under Improvement*

<i>Locality</i>	Expenditures	Appropriations
Gloucester Harbor and Annisquam River	\$559,237 45	\$591,671 55
Lynn Harbor	814,750 77	814,750 77
Boston Harbor	14,938,270 43	15,829,709 34
Plymouth Harbor	511,253 36	511,881 35 ¹
Cape Cod Canal	22,944,516 44	28,076,797 80
Operating and Care, Cape Cod Canal	1,878,842 83	1,878,842 83
Pollock Rip Shoals, Nantucket Sound	1,507,693 53	1,527,029 26
Cross Rip Shoals, Nantucket Sound	48,837 20	48,837 20
New Bedford and Fairhaven Harbor	1,812,363 00	1,836,847 42
Fall River Harbor	790,149 49	790,149 49
Taunton River	383,838 10	383,838 10
Newburyport Harbor	513,807 22	671,708 13

¹ Exclusive of \$108,400 contributed funds.

<i>Locality</i>	Expenditures	Appropriations
Mystic River	530,474 94	781,684 84
Weymouth Fore River	641,150 00	915,150 00 ²
Harbor of Refuge at Nantucket	733,636 52	809,082 83
Total	\$48,608,821 28	\$55,467,980 91

² Exclusive of \$100,000 contributed funds.

TABLE NO. 2—*Localities in Which Work is Not Now in Progress*

<i>Locality</i>	Expenditures	Appropriations
Merrimack River	\$404,466 72	\$404,466 72
Malden River	149,950 00	149,950 00 ¹
Sandy Bay, Cape Ann, Harbor of Refuge	1,941,478 00	1,941,478 00
Bass River	20,150 41	20,150 41 ²
Buzzards Bay Harbor (Weepecket Rock)	2,500 00	2,500 00
Canapitset Channel	9,112 54	9,800 00
Chatham Harbor	12,171 36	13,732 79
Cohasset Harbor	10,000 00	10,000 00
Duxbury Harbor	37,000 00	37,000 00
East Dennis Breakwater (Barnstable Bay)	7 57	1,500 00
Edgartown Harbor (Martha's Vineyard)	30,000 00	30,000 00
Essex River	30,000 00	30,000 00
Hingham Harbor	38,316 58	38,316 58
Hyannis Harbor	221,787 75	221,267 07
Ipswich River	5,617 91	5,617 91
Kingston Harbor	8,940 09	10,000 00
Little Harbor, Woods Hole	18,000 00	18,000 00
Manchester Harbor	23,985 57	23,985 57
Marblehead Harbor	833 42	1,900 00
Powow River	50,940 72	51,000 00 ³
Rockport Harbor	91,229 25	91,229 25
Town River	37,577 41	37,577 41
Vineyard Haven Harbor	55,387 35	55,387 35
Wareham Harbor	95,997 30	96,236 00
Wellfleet Harbor	11,365 57	16,000 00
Westport Harbor and River	3,000 00	3,000 00
Winthrop Harbor	9,000 00	9,000 00
Woods Hole Channel	343,599 92	344,000 00
Beverly Harbor	246,690 41	246,690 41 ⁴
Salem Harbor	107,956 57	107,956 57
Dorchester Bay and Neponset River	128,176 44	128,176 44
Weymouth Back River	27,000 00	27,000 00
Scituate Harbor	126,590 98	126,590 98
Provincetown Harbor	348,062 72	348,062 72
Total	\$4,646,892 56	\$4,657,572 18

¹ Exclusive of \$62,000 contributed funds.

² Project abandoned in 1930.

³ Project abandoned in 1905.

⁴ Exclusive of \$100,000 contributed funds.

RECAPITULATION

	Expenditures	Appropriations
Total of Table No. 1	\$48,608,821 28	\$55,467,980 91
Total of Table No. 2	4,646,892 56	4,657,572 18
Total	\$53,255,713 84	\$60,125,553 09

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON- TRACT No.	Work	Contractor	Date
434	Falmouth Inner Harbor and West Falmouth Harbor,—dredging.	Herbert T. Gerrish .	May 21, 1935
438	Allens Harbor and Herring River, Harwich,—dredging.	Herbert T. Gerrish .	June 18, 1935
440	Plymouth State Pier,—building a pile and timber pier, timber bulkhead and dredging.	Lee Construction Co., Inc.	July 16, 1935
445	Barnstable,—sea wall and jetties at South Hyannis.	Harry L. Jones .	Sept. 3, 1935
447	Blackwater Creek, Salisbury,—dike	A. A. Hersey & Son Co.	Apr. 1, 1936
448	Squaw Island Road, Barnstable,—stone jetties .	Frederick V. Lawrence .	Sept. 4, 1935
450	Onset Bay, Wareham,—dredging	Herbert T. Gerrish .	Oct. 4, 1935
451	Plymouth Harbor,—dredging	Bay State Dredging and Contracting Co.	Oct. 4, 1935
452	Smith's Cove, Gloucester,—dredging	J. S. Packard Dredging Co.	Oct. 4, 1935
453	Manchester Harbor,—dredging	Bay State Dredging and Contracting Co.	Oct. 4, 1935
454	Scituate Harbor,—dredging	Bay State Dredging and Contracting Co.	Oct. 4, 1935
455	Menamsha Creek, Chilmark and Gay Head,—dredging.	Bay State Dredging and Contracting Co.	Oct. 4, 1935
457	Commonwealth Pier 5,—reconstruction of platforms.	Merritt-Chapman & Scott Corp.	Dec. 13, 1935
458	Commonwealth Pier 5,—dredging approach . .	J. S. Packard Dredging Co.	Mar. 3, 1936
459	Boston Harbor,—dredging area between Cunard Docks and Main Ship Channel	Bay State Dredging and Contracting Co. .	Feb. 25, 1936
460	Hither Creek, Nantucket,—dredging channel and basin.	Herbert T. Gerrish .	Apr. 1, 1936
461	Lake Anthony, Oak Bluffs,—dredging channel and basin.	Herbert T. Gerrish .	Apr. 1, 1936
462	Weymouth Fore River, Quincy and Weymouth,—dredging.	J. S. Packard Dredging Co.	Apr. 7, 1936
463	Commonwealth Pier 5, South Boston reconstruction of platforms and pile protection at Head House.	Bay State Dredging and Contracting Co.	July 14, 1936
464	Provincetown Harbor,—dredging	Bay State Dredging and Contracting Co.	June 2, 1936
465	Cotuit Harbor, East Bay, Lewis Bay, Barnstable,—dredging.	Bay State Dredging and Contracting Co.	July 1, 1936
466	Houghs Neck, Quincy,—dredging	Bay State Dredging and Contracting Co.	June 19, 1936
467	Popponesset Bay, Barnstable,—dredging channel and basin.	Herbert T. Gerrish .	July 21, 1936
468	Waquoit Bay, Falmouth,—stone jetty.	Frederick V. Lawrence .	Oct. 27, 1936
469	Winthrop,—dredging basin at Pleasant Park Yacht Club and channel and basin at Cottage Park Yacht Club.	Bay State Dredging and Contracting Co.	July 21, 1936

AND IN FORCE DURING THE YEAR ENDING NOVEMBER 30, 1936

Condition of Work	Contract Price
Completed June 1, 1936	For dredging and disposing of the excavated material on marsh or flats by the hydraulic process, including the construction of necessary dikes and sluices or other barrier, 56 cents for each cubic yard measured in place.
Completed July 1, 1936	For removing and disposing of all boulders, \$20 per cubic yard. For dredging and disposing of excavated material on land, flats or at sea, 43 cents for each cubic yard measured in place.
Completed Jan. 30, 1936	For removing and disposing of all boulders, \$20 for each cubic yard. For dredging 60 cents per cubic yard measured in place.
Completed June 16, 1936	For removal of boulders \$5 per cubic yard. For building pier and bulkhead, — unit prices. For furnishing material and constructing concrete sea wall, including all excavation, back filling, removing old walls, crib work, steps, drains and cess-pools and all incidental work, \$9.90 for each cubic yard of concrete measured in the completed work. For furnishing and placing stone riprap and granite chips in the jetties \$3 for each ton of 2,000 pounds.
Completed Sept. 30, 1936	Unit prices.
Completed Dec. 21, 1935	For furnishing and placing granite stone riprap and chips in the jetties, \$2.84 for each ton of 2,000 pounds.
Completed Apr. 16, 1936	For removing and disposing of boulders, \$20 per cubic yard. For dredging and disposing of the excavated material on marsh or flats by the hydraulic process, including the construction of necessary dikes and sluices or other barrier, 51.5 cents per cubic yard, measured in place.
Completed Dec. 11, 1935	For dredging and disposing of dredged material 54.5 cents per cubic yard, scow measurement.
Completed Dec. 23, 1935	For removing and disposing of boulders, \$20 per cubic yard. For dredging and disposing of the dredged material 54 cents per cubic yard, scow measurement.
Completed Dec. 28, 1935	For removing and disposing of boulders, \$25 per cubic yard. For dredging and disposing of the dredged material 49.8 cents per cubic yard, scow measurement.
Completed Dec. 19, 1935	For removing and disposing of boulders, \$20 per cubic yard. For dredging and disposing of the dredged material, 56.3 cents per cubic yard, scow measurement.
Completed Dec. 13, 1935	For removing and disposing of boulders \$20 per cubic yard. For dredging and disposing of excavated material on marsh or flats by the hydraulic process, including the construction of necessary dikes and sluices or other barriers, 54 cents for each cubic yard measured in place.
In progress	For removing and disposing of boulders, \$20 per cubic yard. Unit prices.
Completed May 18, 1936	For dredging and disposing of dredged material 49.75 cents per cubic yard, scow measurement.
Completed June 26, 1936	For removing and disposing of boulders \$20 per cubic yard. For dredging and disposing of dredged material, 48.5 cents per cubic yard, scow measurement.
In progress	For removing and disposing of boulders, \$20 per cubic yard. For dredging and disposing of the excavated material on marsh and flats by the hydraulic process, including the construction of the necessary dikes, and sluices or other barriers, 55 cents for each cubic yard of material measured in place.
Completed Nov. 10, 1936	For dredging and disposing of the excavated material back of the new bulkhead or on marsh or flats by the hydraulic process, including the construction of the necessary dikes and sluices or other barriers, 50 cents for each cubic yard of material measured in place.
Completed July 31, 1936	For removing and disposing of all boulders, \$20 for each cubic yard. For dredging and disposing of the dredged material 46 cents for each cubic yard, scow measurement.
In progress	For removing and disposing of boulders, \$20 per cubic yard. For removing existing platform, including piling and other structures, including all incidental work, the lump sum of \$4,500.
Completed July 25, 1936	Unit prices.
In progress	For dredging and disposing of the dredged material 64 cents for each cubic yard, measured in scows.
Completed July 23, 1936	For dredging and disposing of dredged material 81 cents per cubic yard, scow measurement.
In progress	For removing and disposing of boulders \$20 per cubic yard. For dredging and disposing of dredged material 49.5 cents per cubic yard, scow measurement.
In progress	For removing and disposing of boulders \$20 per cubic yard. For dredging and disposing of excavated material on marsh and flats by the hydraulic process, including the construction of the necessary dikes and sluices or other barriers, 52 cents for each cubic yard of material measured in place.
In progress	For removing and disposing of all boulders \$20 for each cubic yard.
Completed Sept. 11, 1936	For each ton of heavy stone riprap and stone chips furnished in place in the completed work, \$3.24. For dredging and disposing of dredged material at Ingleside Park, Winthrop, by the hydraulic process, including the construction of necessary dikes and sluices or other barriers, 68.5 cents for each cubic yard, measured in place.
	For removing and disposing of boulders, \$20 for each cubic yard.

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
470	Manchester Harbor,—dredging	J. S. Packard Dredging Co.	Sept. 8, 1936
471	Plymouth State Pier,—approach	John F. Shea Co., Inc. .	Aug. 11, 1936
472	Oak Bluffs,—riprap and filling at bulkhead at High-lands.	Frederick V. Lawrence .	Aug. 11, 1936
473	Pilgrim Beach, Truro,—stone jetties	George M. Bryne . .	Aug. 26, 1936
474	Harwichport,—shore protection	H. & J. Construction Co.	Sept. 8, 1936
475	Megansett Harbor, Falmouth,—stone breakwater .	George M. Bryne . .	Sept. 8, 1936
476	Dennisport Shore,—stone jetties	H. & J. Construction Co.	Sept. 22, 1936
477	South Yarmouth Beach,—stone riprap	J. W. Nickerson . .	Oct. 6, 1936
478	Falmouth Shore protection,—opposite Shore Street	Turner & Breivogel .	Oct. 6, 1936
479	Roughan's Point, Revere,—sea wall	M. F. Gaddis, Inc. .	Nov. 17, 1936
482	Harwichport,—stone jetties	Frederick V. Lawrence .	Nov. 17, 1936
483	West Chop, Tisbury,—shore protection	Frederick V. Lawrence .	Nov. 25, 1936

AND IN FORCE DURING THE YEAR ENDING NOVEMBER 30, 1937

Condition of Work	Contract Price
In progress	For dredging and disposing of dredged material 55 cents per cubic yard, scow measurement.
Completed Sept. 11, 1936	For removing and disposing of boulders \$20 per cubic yard. For furnishing material and filling back of bulkhead and depressions in the approach, including all necessary grading, excavation and incidental work, \$1 for each cubic yard of filling measured in place in the completed work. For resetting granite curbing, furnishing and setting new granite curbing, including all materials, excavation, back fill, loam and all incidental work, the lump sum of \$140. For furnishing, splicing, bolting, fastening with drift pins, blocking and constructing timber cap, completed in place, the lump sum of \$240. For furnishing all materials, equipment and incidental work in placing bituminous concrete surface in approach completed in place \$1 for each square yard of bituminous concrete surface in place.
Completed Oct. 28, 1936	For each ton of heavy stone riprap furnished in place in the completed work, including all incidental work, \$5.23. For furnishing material and filling bank in back of bulkhead, including all incidental work, 90c for each cubic yard of fill measured in place in completed work.
Completed Nov. 11, 1936	For furnishing and placing granite stone riprap and granite chips in jetties, including all incidental work, \$4.73 for each ton of 2,000 pounds in the completed work.
In progress	For furnishing and placing granite stone riprap and chips in the jetties, \$3.90 for each ton of 2,000 pounds.
In progress	For furnishing crane, operator, two men and all incidental work in rebuilding two jetties, \$10 per hour for crane, operator and two men.
In progress	For each ton of heavy stone riprap furnished in place in completed work, \$3.45 for each ton of 2,000 pounds.
In progress	For furnishing and placing granite stone riprap and chips in the jetties, including all incidental work, \$3.75 for each ton of 2,000 pounds.
In progress	For each ton of stone riprap and stone chips furnished and placed in completed work, \$2.99 for each ton of 2,000 pounds.
In progress	For steel sheet piling furnished and driven in completed work, \$74.01 for each ton of steel sheet piling.
In progress	For all reinforcing steel furnished and placed in concrete cap 7.8 cents for each pound.
In progress	For furnishing material and constructing concrete cap, including all incidental work, \$17.29 for each cubic yard of concrete measured in place in the completed work.
In progress	For furnishing and driving steel sheet piling, \$80 for each ton in completed work.
In progress	For furnishing materials for constructing concrete sea wall and stair wells including forms, tie rods, steel reinforcement, excavation and all incidental work, \$15 for each cubic yard of concrete.
In progress	For furnishing and placing granite stone riprap and chips against sea side of sea wall, \$2.20 for each ton of 2,000 pounds in place in completed work.
In progress	For furnishing materials for filling in place back of sea wall, including all incidental work, 60 cents for each cubic yard measured in place in completed work.
In progress	For furnishing and setting each granite stone step in place, including all incidental work, \$18 for each step in place in completed work.
In progress	For furnishing and placing granite stone riprap and chips in the jetties, \$3.15 for each ton of 2,000 pounds.
In progress	For each ton of 2,000 pounds of stone riprap or chips furnished in place in the completed work, \$5.10.

INDEX

<i>General</i>	
Appropriations	4
Financial Statements	14
Expenditures	15
Summary of Income	14
General Activities of Department	1
Organization under Chapter 16, General Laws, as amended	1
Personnel	1
Recommendations for Legislation	2
Special Reports by Department of Public Works	2
<i>Relating to Highways</i>	
Advertising Signs and Devices within the Public View	73
Bond Issue, Chapter 464, Acts of 1935	1
Bridges	49
Alterations, Repairs, and Extensions	51
Built or Contracted for	49
Contemplated Bridges and Structures	51
Examinations, Reports, Estimates, etc.	55
Temporary Bridges across Connecticut River	57
Maintenance of—See State Highways	41
Permanent Bridges across Connecticut River and Merrimack River	59
Deerfield-Sunderland	61
Gill-Montague	59
Hadley-Northampton	59
Lowell, Central Bridge	60
Contracts, signed during the year	20
Co-operative Work, Supervision of Certain Expenditures by Cities, Towns, and Counties	18
Emergency Public Works Construction	30
Expenditures, Summary for the Year	15
Farm-to-Market Roads	43
Federal Aid in Constructing Highways	45
Allotments to Massachusetts	45
Mileage	45
Statement of Road Projects	45
Federal Funds	45
Works Program Grade Crossing Abolitions	45
Works Program Highways	45
Gas Tax, transfer of proceeds under Chapter 431, Acts of 1936	13
General Statement as to Surveys, Plans, Estimates and other Work during the year	18
Grade Crossing Abolitions	32
Hayden-Cartwright Act	32
Highway Fund	14
Highway Improvements authorized by Special Acts	30
Petitions, Meetings and Hearings	20
Public Ways, exclusive of State Highways, in certain Towns	69
Allotments or Contributions by the State and Towns	69
Expenditures in Various Counties and Towns	72
Towns where work has been contracted for	69
State Highways	20
Construction and Reconstruction	21
Contracts entered into for work in various Municipalities	21
Expenditures in various Counties and Municipalities	24
Maintenance and Repair	36
Expenditures in various Counties and Municipalities	36
Ordinary and Special Maintenance	39
Maintenance and Operation of Draw Bridges	40
Fall River-Somerset,—over Taunton River	40
Newburyport-Salisbury,—over Merrimack River	40
New Bedford-Fairhaven,—over Acushnet River	40
Quincy-Weymouth,—over Weymouth Fore River	41
Maintenance of other Bridges as State Highways	41
Petitions received during the year	20
Reconstruction and Repair of State Highways damaged by floods	35
Removal of Snow and Ice from State Highways	39
Resurfacing and Widening	19
Roadside Maintenance and Development, Nursery at Sudbury	41
Sidewalk Construction along State Highways	42
Town and County Ways (Chapter 90, General Laws)	61
Allotments or contributions by the State, Towns and Counties	61
Expenditures in various Counties and Towns	67
Towns where work has been contracted for	61
Type of Road and Length contracted for	61
Works Program Highways and Grade Crossing Abolitions	48
Works Progress Administration	42
Sidewalk Construction	42
Farm-to-Market Roads	43
Roadside Beautification	41
Traffic on Highways	44
Signs, Direction, Route, Warning, etc.	44
Traffic Control Signals and Regulations	45
Uniform Traffic Signs, Lights, Markings, etc.	44

Relating to Registry of Motor Vehicles

Accident Prevention	74
Accident Report Letters	80
Aircraft	76
Analysis of Court Abstracts received	82
Branch Offices	75
Comparative Statement showing Ratio of Yearly Registrations to Death and Injuries; and Suspensions, etc.	80
Conference of Motor Vehicle Administrators	83
Examinations for licenses	74
Expenditures, Analysis of, for 1936	84
Head Lamps and Rear Lamps	79
Insurance, Motor Vehicle Liability	75
Investigations and Prosecutions by Inspectors	80
Motor Vehicle Deaths, Injuries, Collisions	79
Number of Children killed and injured	79
Number of collisions	79
Number of Persons killed and injured	79
Motor Vehicle Equipment, Inspection of	77
Brakes, Lights and Overloads	78
School Bus Inspection	78
Property Damage	76
Registrations, Licenses, Fees	74
Expenses of the Registry of Motor Vehicles	84
Court Fines received by the Treasurer and Receiver General	84
Motor Vehicle Fees Rebated	84
Passenger Cars, Commercial Vehicles and Motor Cycles	74
Receipts, Analysis of	83
Total Receipts, credited Highway Fund, 1936	84
Revocations and Suspensions	80
Safety Work	85
Used-Car Section	82
Motor Vehicle Identification	82
Engine Numbers assigned	83
Motor Vehicles Stolen	83
Reports	83

Relating to Waterways and Public Lands

Allens Harbor, Harwich	90
Barnstable Dredging	90
Cotuit Harbor, East Bay and Lewis Bay	90
Barnstable Shore Protection	90
South Hyannis and West Beach	90
Benson's Pond, Middleborough	101
Boston Harbor	85
Commonwealth Flats at East Boston	87
Aircraft Landing Field—Boston Airport	87
Commonwealth Pier No. 1	87
Reclamation of Flats	87
Commonwealth Flats at South Boston	85
Boston Army Base	87
Commonwealth Pier No. 5	85
Development of Land South of Summer Street	86
East Boston, Cunard Docks,	87
Expenditures for Development and Improvement in Boston Harbor 1859 to 1936, inclusive	104
Expenditures and Contributions for Improvement of Small Harbors and Channels within	
Boston Harbor 1893 to 1936, inclusive	105
Houghs Neck, Quincy	88
Dredging	88
Sea Wall	88
Marine Borers	89
Sea Walls	89
Surveys	89
Weymouth Fore River, Quincy and Weymouth	88
Winthrop Dredging	88
Cottage Park Yacht Club	88
Pleasant Park Yacht Club	88
Cape Cod Canal Landing Pier at Bourne	90
Connecticut River	91
Flood Control	91
Works Progress Administration Projects	91
Conserving and Equalizing the Flow of Waters in Rivers and Streams	102
Contracts made and in force during year ending Nov. 30, 1936	114
Dennis Shore Protection	91
Ellisville Harbor, Plymouth	92
Expenditures and Contributions for River and Harbor Work from 1893 to Nov. 30, 1936, excepting	
Boston Harbor	107
Expenditures and Contributions for River and Harbor Work from Dec. 1, 1935 to Nov. 30, 1936	105
Falmouth Inner Harbor	92
Falmouth Shore Protection	92
Federal Appropriations and Expenditures in Massachusetts Rivers and Harbors to June 30, 1936	112
Gloucester Fish Pier	92
Great Ponds	101
Access to:	
White Pond, Chatham	101
Three Mile Pond or Brush Hill Pond, Sheffield	101
Surveys	101

Harwich Shore Protection	94
Herring River, Harwich	94
Hither Creek, Nantucket	94
Housatonic River, Pittsfield	94
Income, Statement of	14
Lake Anthony, Oak Bluffs	95
Licenses and Permits	103
Manchester Harbor, Manchester	95
Megansett Harbor, Falmouth	95
Menamsha Creek, Chilmark and Gay Head	96
New Bedford State Pier	96
Oak Bluffs Shore Protection	96
Onset Bay, Wareham	97
Plymouth, Commonwealth Property	97
Plymouth Harbor, Plymouth	97
Popponesset Bay, Barnstable	97
Province Lands	102
Provincetown Harbor, Provincetown	98
Provincetown Tercentenary Commission	98
Rivers, Harbors, Tide Waters and Forcshores outside of Boston Harbor	89
Rock Harbor, Orleans	98
Roughan's Point, Revere	98
Salisbury Dike	99
Saugus River, Revere	99
Scituate Harbor, Scituate	99
Scituate Sea Walls	99
Smith's Cove, Gloucester	100
State Boundary Lines	102
Town Boundary Lines	102
Triangular Stations	103
Truro Shore Protection	100
Pilgrim Beach	100
Vineyard Haven Harbor, Tisbury	100
Waquoit Bay, Falmouth	100
West Chop, Tisbury	100
West Falmouth Harbor, Falmouth	100
Witchmere Harbor, Harwich	100
Yarmouth Shore Protection	101

The Commonwealth of Massachusetts

ANNUAL REPORT

OF THE

Department of Public Works

For the Year Ending November 30, 1937



The Commonwealth of Massachusetts

EIGHTEENTH ANNUAL REPORT OF THE DEPARTMENT OF PUBLIC WORKS YEAR ENDING NOVEMBER 30, 1937

*To the Honorable Senate and House of Representatives
of the Commonwealth of Massachusetts:*

In accordance with the provisions of law, I have the honor, as Commissioner of Public Works, to submit the eighteenth annual report of the Department of Public Works for the year ending November 30, 1937.

The organization of the Department, as defined in Chapter 16, General Laws, Tercentenary Edition, was as follows:

Commissioner of Public Works — WILLIAM F. CALLAHAN

Associate Commissioner — RICHARD K. HALE

Associate Commissioner — FRANK E. LYMAN to December 9, 1936;

—FRANK L. KANE beginning December 9, 1936.

Highway construction during the past year has been governed by what is believed to be sound methods of construction and correct principles of design.

The important trend in road design today has been dictated by consideration of the safety factor and this has involved the study of alignment, grades, curves, profiles and intersections. The elimination of sharp curvatures, the clearance between vehicles and the opportunity to pass overtaken vehicles, are items considered to aid in the elimination of hazards.

Road design for important routes provides for multiple lane highways, with wide traffic lanes, with wide center reservations separating opposing streams of traffic, grade separations at important intersections, long sight-distances and other safety factors and appropriate planting of roadsides. Refinements in road design have included improvements in road materials and methods of construction and workmanship, carefully selected subgrade materials, adequate pavement thickness, shoulder and slope finish—which are exemplified by recent construction.

It has been the aim of the Department to make improvements in the highway system deemed most urgent, and to insure that all such improvements shall be the result of definite lines of procedure. The endeavor has been made to coordinate all the phases of the Department's work, including right-of-way, the collection of adequate preliminary data for design as the basis for economic construction and the careful analysis of all conditions and the elimination of confusion in any part of the work for the purpose of avoiding changes in contracts after work has been started.

A survey of present roadbuilding materials indicates wide-spread developments and new methods of application and definite improvement in variety and quality. Laboratory and field experimentation has been conducted by the Department continuously on all construction and maintenance activities. The adaptability of local materials in combination with other products has been of importance in this state.

The task of modernizing the highway transport system necessitates the careful study of road service, materials, design and construction. It is also the aim to meet the requirements of tomorrow and to avoid the risk of early road obsolescence.

The trend in Massachusetts has been toward the construction of the higher type of road surface to meet the volumes and weight of traffic which results from the growing traffic demands.

During the fiscal year 1937 State highway construction and reconstruction included many important projects.

Work was completed on a link in the route connecting the Newburyport Turnpike with the Sumner Tunnel in Boston. The section constructed extends from the traffic circle at the intersection of Squire Road and Broadway in Revere to the Newburyport Turnpike in Saugus at its intersection with Felton Street. The design includes two 30-ft. roadways with the raised type of reservation in the center, and sidewalks on both sides. The project includes two traffic circles, a bridge over the Saugus Branch of the Boston & Maine Railroad, and a bridge and ramps at Lynn Street, Revere. The length of this project is $2\frac{3}{4}$ miles, and the cost approximately \$960,000.

From the northerly end of this project, the reconstruction of the Newburyport Turnpike in Saugus and Lynnfield, U. S. Route No. 1, was completed to a point just north of South Lynnfield Square for a distance of 4.8 miles at a cost of approximately \$1,700,000. The design provides for a divided highway with a 20-foot raised center reservation, on each side of which are three driving lanes totalling 34 feet, a 10-foot parking lane and a $12\frac{1}{2}$ -foot sidewalk area consisting of 4 feet of pavement and the remainder a grass plot. Four feet of the sidewalk area was paved for pedestrian use and the balance is loamed and seeded for grass. At four important intersections grade separations were constructed with connecting roadway ramps to connect with local roads. This is one of the most modern types of highway in the country.

From the northerly terminus of this Newburyport Turnpike project a section of the proposed Northern Circumferential Highway, the future replacement of the present Route 128, was completed to Andover Street in Peabody, a distance of about four miles, including bridge construction at its intersection with Lowell Street in Peabody to provide for traffic separation, at a total cost of approximately \$980,000.

The design is similar to that described for the Turnpike project. It includes two 23-foot pavements, separated by a 16-foot center plot, with graded areas nine feet in width on each side to provide for future widening. Sidewalks have been provided on either one or both sides, as deemed necessary.

South of the Cape Cod Canal, construction and reconstruction of the State highway in Bourne and in Eastham-Orleans, has been completed. In the former town a direct connection has been made between the traffic circle at the southerly end of the Bourne Bridge over the canal and a point further south, on Route 28. In Eastham and Orleans approximately three miles of Route 6, extending easterly from the junction of this route with Route 28, was reconstructed and widened.

In the southern section of the State, on Route 6, at the Dartmouth-Westport line, a long-needed alignment correction has been completed.

In the Connecticut Valley approximately four miles of U. S. Route 5, in Holyoke, has been widened and resurfaced. A sidewalk was constructed for the entire length on one side.

In central Massachusetts another section of the Worcester-Providence Turnpike has been completed for a distance of approximately two miles in the towns of Millbury and Sutton. The design is of the divided roadway type and consists of two 30-foot lanes. Traffic separation was afforded at the only important intersection encountered, by means of bridge and ramp construction.

Work is now under way on the proposed Concord-to-Westminster route, which will be the future Route 2. Approximately $2\frac{3}{4}$ miles in the cities of Leominster and Fitchburg are being graded under the present contract.

In western Massachusetts about two miles of Route 9 on Dalton Avenue in Pittsfield has been widened and resurfaced. The design includes separate roadways for opposite bound traffic, with a raised separating plot in the center. Sidewalks have been provided on one or both sides as considered necessary.

By means of Federal Works Program funds, certain town highways have been constructed on secondary routes. The Marshfield-Pembroke project provides a long-needed connection between Routes 3 and 3A, about five miles having been completed, with a surface of bituminous concrete 40 feet in width. The Attleboro-North Attleborough-Plainville project provided a long-needed direct connection between the city of Attleboro and Route 1 for Boston and northbound traffic. The length completed was 4½ miles, with the pavement 40 feet in width, with sidewalk construction on one side.

With the aid of the same funds a municipal highway approximately 1¼ miles was built on Springfield Street in the City of Holyoke.

Construction of railroad grade crossing eliminations was completed as follows:

Canton	On the N. Y., N. H. & H. R. R. Dedham Street
Sharon	South Main Street
Sharon	Depot Street
Mansfield	Elm Street
Mansfield	School Street

Work is now under way at Union Street, Braintree and Cocasset Street, Foxborough. In Attleboro, on Route 1, replacement of an inadequate structure was made by the construction of a new steel stringer bridge with the necessary approaches.

On the Fitchburg Division of the Boston & Maine Railroad, work was completed on the elimination of grade crossings on Route 20 in Waltham, on West Main Street in Ayer and on Leominster Road in Lunenburg.

In Ashburnham, on Route 12, near the South Ashburnham station of the Boston & Maine Railroad, a crossing has been eliminated.

On the main line of the Boston & Albany Railroad in the vicinity of Old Flanders Road near the Hopkinton-Westborough line, and on Shrewsbury Street in Shrewsbury near the Grafton-Shrewsbury line, crossings have been eliminated. At Shrewsbury Street, in addition to the new bridge and approaches, a pedestrian underpass was provided. In Huntington, at the crossing of this railroad with Route 112, the construction now underway includes a multiple span steel bridge, which not only spans the railroad but the adjacent Westfield River.

On the Milford branch of the Boston & Albany Railroad at its junction with Route 109, further elimination has been accomplished.

In the city of Worcester, at the so-called Barbers Crossing, on Routes 110 and 12, elimination necessitated extensive relocation of the highway, construction of a steel bridge and a pedestrian underpass.

On Route 1, in Newbury, at the crossing with the tracks of the Boston & Maine Railroad, elimination has been accomplished with the construction of a steel and concrete bridge, with the necessary approaches.

Further elimination has been made in Sheffield on U. S. Route 7, where this route crosses the New York, New Haven and Hartford Railroad, also in the town of Monson on Route 132, at its intersection with the Central Vermont Railroad.

Bridge construction has been one of the important activities during the past year. The program has included seventy-eight (78) new structures built or contracted for, including sixty-six (66) bridges over waterways, seven (7) grade separations at railroad crossings.

The cost of this work has been provided in part from Federal funds and partly from flood relief funds provided by the Commonwealth.

Construction of important bridges with Federal cooperation was begun during the year as follows: the Hadley-Northampton Bridge and the Gill-

Montague Bridge over the Connecticut River; the Central Bridge, Lowell, over the Merrimac River; the Grade Crossing Elimination Projects in Braintree, Huntington and Milford; the reconstruction of the Slades Ferry Bridge over the Taunton River, under the provisions of Chapter 488, Acts of 1935.

Under the provisions of Chapter 90, General Laws, 166 miles of city or town highways were constructed and maintenance was provided on 1117 miles of such roads, involving a total expenditure of about \$4,300,000.

Under the provisions of Chapter 429, Acts of 1936, a total of 115 city and town bridges, destroyed by the floods of 1936, were reconstructed on the force account basis at an estimated cost of \$897,000.

The installation of traffic signals where necessary and the maintenance of those already installed on State highways have contributed to the safety in motor vehicle operation on the highways.

The necessity for approval by the Department of installations by local communities of traffic control matters results in uniformity.

Traffic studies conducted by the Department have been of particular value as indicating the necessity for improvements in the highway system and also in the matter of accident analysis, which in many cases reveal road conditions which may be improved to eliminate hazards. At present a comprehensive highway survey is being conducted to determine further data regarding all phases of highways and the service they render to the communities throughout the Commonwealth, which will be the basis for future designing of highways, and the Department has the cooperation of the Federal Government in this undertaking.

One of the most important services rendered has been the winter maintenance of highways. About 2000 miles of State highways and other important roads are included in the program of winter maintenance, involving the plowing of snow and ice control on these highways.

The Department also maintains about 9012 miles of town ways under the provisions of Section 26, Chapter 81, General Laws.

The Department has had supervision of highway work involving the expenditure of about \$18,000,000, including Federal funds, State appropriations and city and town contributions.

The Department has worked in cooperation with the Federal Road Authorities in the endeavor to carry forward practical highway science, as the most satisfactory way to secure adequate highway transport.

Harbor improvements have included dredging the channel in Weymouth-Fore River Bridge, above Weymouth-Fore River Bridge, dredging in Malden River and other minor channels in Boston Harbor.

Outside of Boston Harbor dredging in numerous small harbors along the coast and shore protection has been completed at many locations.

Of particular interest is the construction of the new Gloucester Fish Pier, which is being constructed on the P.W.A. basis in cooperation with the Federal Government, which has allotted \$540,000 for this project to be used with the State's \$600,000 appropriated by the General Court. Upon completion, this pier and the buildings erected thereon will be leased for a term of years to the fish industry.

It is believed that the Department has achieved definite improvement in the methods of contract control, including improvement in specifications, and has advanced its knowledge of materials and methods of construction and maintenance gained through research and it has thereby advanced the science of roadbuilding, so that the Commonwealth will be assured of a high character of roadbuilding activities.

The engineering and clerical staff of the Department was as follows:

Chief Engineer, GEORGE H. DELANO

Highway Engineer, (Projects), FRANKLIN C. PILLSBURY¹

Highway Engineer, (Construction, State Highways)

RAYMOND W. COBURN

P.D. 54

Highway Engineer, (Construction, Chapter 90 roads)

WILLIAM F. DONOVAN

Highway Engineer, (Maintenance), JAMES E. LAWRENCE

Highway Engineer, (Traffic), EDGAR F. COPELL

Bridge Engineer, GEORGE E. HARKNESS

District Highway Engineers:—

District No. 1, GEORGE A. CURTIS—Berkshire County and the towns of Worthington, Middlefield and Huntington in Hampshire County, and the towns of Chester, Montgomery, Russell, Blandford and Tolland in Hampden County.

District No. 2, H. D. PHILLIPS² W. G. BURNS³:—Franklin, Hampshire and Hampden Counties, with the following exceptions; three towns in Hampshire County included in District No. 1, and ten towns in Hampden County included in Districts Nos. 1 and 3.

District No. 3, JOHN A. JOHNSTON⁴ M. J. DALTON⁵—Worcester County and the towns of Brimfield, Holland, Monson, Palmer and Wales in Hampden County.

District No. 4, F. D. SABIN—Middlesex County.

District No. 5, JOSEPH A. MCCARTHY—Essex and Suffolk Counties.

District No. 6, H. O. PARKER—Norfolk and Bristol Counties.

District No. 7, JOHN E. TROY—Plymouth, Barnstable, Dukes and Nantucket Counties.

District Waterways Engineer, for Boston Harbor—JOHN N. FERGUSON.

District Waterways Engineer, for harbors and waterways outside Boston Harbor—FRANCIS L. SELLEW.

Secretary, MARY A. RILEY.

Department Business Agent, FRED FAIR

Registry of Motor Vehicles

Registrar, FRANK A. GOODWIN.

Deputy Registrar, ANTHONY A. BONZAGNI

Assistant to the Registrar of Motor Vehicles, ALFRED W. DEVINE.

Chief Administrative Clerk, CHARLES R. GILLEY.

Chief Inspector of Motor Vehicles, ALBERT S. OLSSON.

A detailed report of the activities of the Department for the year is presented herewith.

WILLIAM F. CALLAHAN,
Commissioner of Public Works.

December 1, 1937.

SPECIAL REPORTS TO THE LEGISLATURE

The Department was authorized and directed by the Legislature to make certain investigations, and the reports thereon were made as follows:

Improving Harbor and Terminal facilities in the city of Fall River. Report made Dec. 2, 1936, by the Department of Public Works under Chapter 15, Resolves of 1936 (H 228 of 1937).

Construction of a breakwater and making other improvements for protection of the shore at Truro. Report made Dec. 2, 1936, by the Department of Public Works under Chapter 54, Resolves of 1936 (H 229 of 1937).

Relative to a State Highway over the route of the old Middlesex Turnpike so called from Maple St. in Lexington to North Chelmsford, including estimates of cost. Report made Dec. 2, 1936, by the Department of Public Works under Chapter 71, Resolves of 1936 (Sen. 35 of 1937).

¹ Died May 15, 1937

² Until June 30, 1937

³ Appointed July 1, 1937

⁴ Until June 30, 1937

⁵ Appointed July 1, 1937

RECOMMENDATIONS FOR LEGISLATION

The Commissioner of Public Works presented to the State Secretary on December 1, 1937, as required by law, that part of the current annual report which contains recommendations or suggestions for legislative action as follows:

1. In order to avoid confusion in the matter of liens on contracts for Public Works it has become evident that the provisions of law relating to liens on State Public Works contracts, as incorporated in Section 39, Chapter 30, General Laws, should likewise be made applicable to county or municipal public works contracts. It is, therefore, recommended that an amendment be made to Section 29, Chapter 149, General Laws, to provide for this, so that rental of vehicles, tools, and other appliances may become a lienable item on county and municipal contracts as well as on State Public Works contracts.

In order to expedite the work of the Department including the construction, reconstruction and maintenance of state highways and improvement of town and county ways under the provisions of Chapters 81 and 90, General Laws, with funds appropriated annually, it is respectfully suggested that such appropriations for the work of this Department be made at an early date in the legislative session in order to take advantage of the construction season and to complete as much as possible of the contract work within the fiscal years for which funds are appropriated. This would also facilitate the early allotment of funds for work under Chapter 90.

Also, the early passage of appropriations for Waterways projects, including river and harbor work would make possible conduct of such work, particularly at locations which are at summer resorts, prior to the yachting season, so that communities may derive the benefits from such expenditures during the year in which they are made.

2. The Department believes that authorization should be given the Department to cooperate with the United States Geological Survey in making a survey of the geological resources of the Commonwealth. Such data would be of great value to the Department in locating deposits of sand, gravel and other road-building materials, as well as of frequent use for other State departments. It is recommended that an annual appropriation of \$10,000 be made in connection with the making of a geological map which is now in progress.

3. The Department is contemplating the extension and ultimate construction of many main thoroughfares, such as the Concord-Westminster road, Boston-Connecticut, Worcester Turnpike, Lowell Turnpike, Beverly-Gloucester, and others. It becomes increasingly evident as our work progresses that the indiscriminate access from abutting property to and from state highways is increasing the danger to travel on these important through routes. Many states are enacting laws which provide that the thoroughfare so laid out shall be in a special class so that the abutting property shall have no rights of access to or from the thoroughfare. Such a right has been conferred upon railroads in constructing their lines across country and also on many of our park departments in their taking of reservations and in the construction of roads therein.

It is recommended that careful consideration be given to this problem.

4. The repair of the Slades Ferry bridge, so called, over the Taunton River, between the city of Fall River and the town of Somerset, provided for by Chapter 488, Acts of 1935, and carried out to date, indicates that certain necessary other work must be done to make the bridge safe and adequate for public travel and use for highway purposes than is possible with the amount of funds (\$225,000) authorized by this act. It is estimated that an additional amount of \$20,000 is required for the purpose of providing automatic machinery for operating the traffic gates, for the installation of traffic lights and roadway lighting equipment and for the cleaning and painting of the old part of the structure.

5. The regulation and control of billboards, signs and other advertising devices is provided for at the present time by Rules and Regulations adopted by the Department on January 24, 1924, under the provisions of Section 29, Chapter 93, General Laws. However, under a recent Supreme Court decision in various suits brought for the purpose of controlling Accessory Use Signs, it appears that at the present time there is no jurisdiction over these Accessory Use Signs, which are clearly exempted under Section 30, Chapter 93 of the present advertising laws.

The Supreme Court in a decision declared that although the present law allowed evasions, it was the duty of the legislature and not the courts to determine what additions to the statute would best remedy the situation.

It is recommended that legislation be passed to provide under Section 21, Chapter 40, General Laws, for the regulation of the size, number, and location of billboards, signs, and other advertising devices which are located on the establishments wherein the business is conducted, as well as those signs which advertise the property itself, or any part thereof, as "For Sale" or "To Let".

Although different cities and towns would have different ideas concerning the extent to which they wish to exercise jurisdiction over signs, this legislation would enable a particular town, if it wished, to control the problem which is reaching large proportions in many cases.

APPROPRIATIONS

Chapter 234, Acts of 1937, making appropriations for the maintenance of departments, boards, commissions, institutions and certain activities of the Commonwealth, etc., is, in part, as follows:—

Item

Requirements for Extinguishing the State Debt.

225. For sinking fund requirements and for certain serial bonds maturing during the present year, the sum of five million four hundred two thousand seven hundred twenty-two dollars and eighty-three cents, payable from the following accounts and funds in the following amounts:—from the Highway Fund, five million sixty-eight thousand three hundred eighty-nine dollars and fifty cents; and the remainder from the General Fund . . . \$5,402,722 83

Interest on the Public Debt.

226. For the payment of interest on the direct debt of the commonwealth, a sum not exceeding eight hundred sixty-eight thousand two hundred thirty-two dollars, of which sum five hundred sixty thousand six hundred sixty-six dollars and twenty-five cents shall be paid from the Highway Fund . . . 868,232 00

Service of the Department of Banking and Insurance.

Division of Insurance:

314. For other personal services of the division, including expenses of the board of appeal and certain other costs of supervising motor vehicle liability insurance, a sum not exceeding two hundred thirty-six thousand dollars, of which sum not more than thirty-five thousand dollars may be charged to the Highway Fund . . . 236,000 00

Service of the Department of Corporations and Taxation.

Corporations and Tax Divisions:

320. For the salaries of certain positions filled by the commissioner, with the approval of the governor and council, and for additional clerical and other assistance, a sum not exceeding two hundred forty-nine thousand dollars, of which sum not more

than fifty thousand dollars may be charged to the Highway Fund to cover the estimated cost of collection of the gasoline tax, so called, and not more than fifty thousand dollars may be payable from fees collected under section twenty-seven of chapter one hundred and thirty-eight of the General Laws, as amended, to cover the estimated cost of collection of alcoholic beverages taxes, so called \$249,000 00

Service of the Department of Mental Diseases.

Division of Mental Hygiene:

For the maintenance of and for certain improvements at the following institutions under the control of the Department of Mental Diseases:

518. For the construction of roads within the property of the Monson state hospital, a sum not exceeding fifteen thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose, and the letting of the contract and the work of construction to be done under the supervision of the state department of public works 15,000 00

Service of the Department of Public Safety.

Division of State Police:

644. For the salaries of officers, including detectives, a sum not exceeding five hundred forty-nine thousand dollars, of which sum not more than two hundred thousand dollars may be charged to the Highway Fund . 549,000 00
646. For other necessary expenses of the uniformed division, including traveling expenses of detectives, a sum not exceeding four hundred sixteen thousand dollars, of which sum not more than one hundred fifty thousand dollars may be charged to the Highway Fund . 416,000 00

Service of the Department of Public Works.

The appropriations made in the following four items are to be paid three quarters from the Highway Fund and one quarter from the Port of Boston receipts:

663. For the salaries of the commissioner and the associate commissioners, a sum not exceeding nineteen thousand five hundred dollars 19,500 00
664. For personal services and clerks and assistants to the commissioner, a sum not exceeding eleven thousand one hundred dollars 11,100 00
665. For traveling expenses of the commissioners, a sum not exceeding two thousand dollars 2,000 00
666. For telephone service in the public works building, a sum not exceeding thirty thousand dollars 30,000 00

Functions of the department relating to highways (the following appropriations, except as otherwise provided, are made from the Highway Fund):

667. For the maintenance and operation of the public works building, a sum not exceeding one hundred thirty thousand dollars 130,000 00

Item

668.	For the salaries of guards for the public works building, a sum not exceeding thirty-five thousand dollars	\$35,000 00
669.	For personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding ninety-seven thousand dollars	97,000 00
670.	For services other than personal, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, and for the expense of membership of the department in the American Association of State Highway Officials, a sum not exceeding seventeen thousand dollars	17,000 00
671.	For the suppression of gypsy and brown tail moths on state highways, a sum not exceeding twelve thousand five hundred dollars	12,500 00
672.	For the construction and repair of town and county ways, a sum not exceeding two million five hundred thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	2,500,000 00
673.	For aiding towns in the repair and improvement of public ways, a sum not exceeding one million four hundred fifty thousand dollars	1,450,000 00
674.	For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights; for payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the maintenance of a nursery for roadside planting, a sum not exceeding two million eight hundred thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	2,800,000 00
675.	For the purpose of enabling the department of public works to secure federal aid for the construction and reconstruction of highways, including bridges, a sum not exceeding two million three hundred thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose :	2,300,000 00
676.	For administering the law relative to advertising signs near highways, a sum not exceeding twenty-one thousand dollars, to be paid from the General Fund	21,000 00
677.	For expenses of a topographical survey and map of the commonwealth, in addition to funds received from federal appropriations or private subscriptions, a sum not exceeding fifty thousand dollars	50,000 00

Registration of Motor Vehicles:

678.	For personal services, a sum not exceeding one million eighty thousand dollars, of which sum fifteen thousand dollars may be charged to the General Fund, and the remainder shall be paid from the Highway Fund	1,080,000 00
679.	For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same and for work incidental to the registration and licensing of owners and operators of motor vehicles,	

10 Item		P.D. 54
	a sum not exceeding four hundred eighty thousand dollars, to be paid from the Highway Fund	\$480,000 00
680.	For printing and other expenses necessary in connection with publicity for certain safety work, a sum not exceeding one thousand dollars	1,000 00
	Functions of the department relating to waterways and public lands:	
681.	For personal services of the chief engineer and assistants, a sum not exceeding fifty-eight thousand dollars	58,000 00
682.	For services other than personal, including printing pamphlet of laws and the annual report, and for necessary office and engineering supplies and equipment, a sum not exceeding sixteen hundred dollars	1,600 00
683.	For the care and maintenance of the province lands and of the lands acquired and structures erected by the Provincetown tercentenary commission, a sum not exceeding five thousand dollars	5,000 00
684.	For the maintenance of structures, and for repairing damages along the coast line or river banks of the commonwealth, and for the removal of wrecks and other obstructions from tide waters and great ponds, a sum not exceeding twenty-two thousand five hundred dollars	22,500 00
685.	For the improvement, development and protection of rivers and harbors, tide waters and foreshores within the commonwealth, as authorized by section eleven of chapter ninety-one of the General Laws, as appearing in the Tercentenary Edition thereof, and of great ponds, a sum not exceeding one hundred thousand dollars, and any unexpended balance of the appropriation remaining at the end of the current fiscal year may be expended in the succeeding fiscal year for the same purposes; provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered	100,000 00
686.	For re-establishing and permanently marking certain triangulation points and sections, as required by order of the land court in accordance with section thirty-three of chapter ninety-one of the General Laws, as appearing in the Tercentenary Edition thereof, a sum not exceeding one thousand dollars	1,000 00
687.	For expenses of surveying certain town boundaries, by the department of public works, a sum not exceeding five hundred dollars	500 00
688.	For the operation and maintenance of the New Bedford state pier, a sum not exceeding twelve thousand dollars	12,000 00
689.	For the compensation of dumping inspectors, a sum not exceeding fifteen hundred dollars	1,500 00
690.	For continuing the work in gauging the flow of water in the streams of the commonwealth, a sum not exceeding five thousand dollars	5,000 00

Item

691.	For the maintenance and repair of certain property in the town of Plymouth, a sum not exceeding thirty-five hundred dollars	\$3,500 00
692.	For the operation and maintenance of the Cape Cod Canal pier, a sum not exceeding forty-five hundred dollars	4,500.00
694.	For certain expenditures on account of the reconstruction of a pier at Plymouth, the sum of fourteen hundred sixty-six dollars and twenty-seven cents, the same to be in addition to any amount heretofore appropriated for the purpose Functions of the department relating to Port of Boston (the following items are to be paid from the Port of Boston receipts):	1,466 27
695.	For the construction of railroads and piers and for the development of certain land, a sum not exceeding nine thousand dollars	9,000 00
696.	For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding one hundred eleven thousand one hundred dollars	111,100 00
697.	For the maintenance of pier one, at East Boston, a sum not exceeding four thousand dollars	4,000 00
698.	For the maintenance and improvement of commonwealth property under the control of the department in connection with its functions relating to waterways and public lands, a sum not exceeding ninety thousand dollars	90,000 00
699.	For dredging channels and filling flats, a sum not exceeding ninety thousand dollars, the same to be in addition to any unexpended balance of the appropriation made for the purpose in the previous year	90,000 00

Miscellaneous

The following items are to be paid from the Highway Fund, with the approval of the metropolitan district commission:

722.	For maintenance of boulevards and parkways, a sum not exceeding six hundred ninety-eight thousand eight hundred and twenty dollars	698,820 00
723.	For resurfacing of boulevards and parkways, a sum not exceeding two hundred seventy-five thousand dollars	275,000 00
724.	For expense of supplies and services necessary for procuring Works Progress Administration funds, a sum not exceeding eight thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	8,000 00
725.	For the cost of installations necessary for additional street lighting, a sum not exceeding thirty-two thousand dollars	32,000 00
726.	For maintenance of Wellington bridge, a sum not exceeding thirty-four hundred dollars	3,400 00

Unclassified Accounts and Claims

For certain other aid:

732.	For the compensation of certain public employees for injuries sustained in the course of their em-	
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ployment, for present and previous years, as provided by section sixty-nine of chapter one hundred and fifty-two of the General Laws, as amended, a sum not exceeding one hundred thousand dollars, of which sum not more than fifty-five thousand dollars may be charged to the highway Fund . \$100,000.00

DEFICIENCIES.

For deficiencies in certain appropriations of previous years, in certain items, as follows:

Service of the Department of Public Works.

For services other than personal, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, the sum of eighty-six dollars and thirty-five cents, to be paid from the Highway Fund . 86 35

For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights; for payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the maintenance of a nursery for roadside planting, the sum of nine thousand thirty-four dollars and ninety cents, to be paid from the Highway Fund . 9,034 90

SECTION 3. No liabilities in excess of appropriations provided for under this act shall be incurred by any department or institution, except in case of emergency, and then only upon the prior written approval of the governor and council. The state comptroller is hereby directed to send a copy of this section to each departmental, divisional and institutional head immediately following the passage of this act, together with a copy of suitable regulations relative to applications for transfers from the appropriation for extraordinary expenses as provided by section eight of chapter six of the General Laws.

SECTION 5. No payment shall be made or obligation incurred under authority of any special appropriation made by this act for construction of public buildings or other improvements at state institutions until plans and specifications have been approved by the governor, unless otherwise provided by such rules and regulations as the governor may make.

SECTION 6. No expenses incurred for mid-day meals by state employees, other than those who receive as part of their compensation a non-cash allowance in the form of full or complete boarding and housing, and those employees who are stationed beyond commuting distance from their homes for a period of more than twenty-four hours, shall be allowed by the commonwealth.

SUPPLEMENTARY APPROPRIATIONS

Chapter 434, Acts of 1937, in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is, in part, as follows:—

SECTION 1. To provide for supplementing certain items in the general appropriation act, and for certain new activities and projects, the sums set forth in section two, for the particular purposes and subject to the conditions stated therein, are hereby appropriated from the general fund or ordinary revenue of the commonwealth, unless some other source of revenue is expressed, subject to the provisions of law regulating the disbursement of public funds and the approval thereof.

SECTION 2.

Item

Service of the Department of Public Works.

Functions of the department relating to highways (the following appropriations, except as otherwise provided, are made from the Highway Fund):

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|-------|---|------------|
| 667. | For the maintenance and operation of the public works building, a sum not exceeding thirty-five hundred dollars, the same to be in addition to any amount heretofore appropriated for the purpose | \$3,500 00 |
| 672. | For the construction and repair of town and county ways, a sum not exceeding two hundred thousand dollars, the same to be in addition to any amount heretofore appropriated therefor | 200,000 00 |
| 674. | For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights; for payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the maintenance of a nursery for roadside planting, a sum not exceeding three hundred and fifty thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose | 350,000 00 |
| 675. | For the purpose of enabling the department of public works to secure federal aid for the construction and reconstruction of highways, including bridges, a sum not exceeding three hundred and fifty thousand dollars, the same to be in addition to any amount heretofore appropriated therefor | 350,000 00 |
| 676. | For administering the law relative to advertising signs near highways, a sum not exceeding four thousand dollars, to be paid from the General Fund and to be in addition to any amount heretofore appropriated for the purpose | 4,000 00 |
| | Registration of Motor Vehicles: | |
| 679. | For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding thirteen thousand dollars, to be paid from the Highway Fund and to be in addition to any amount heretofore appropriated for the purpose | 13,000 00 |
| | Functions of the department relating to waterways and public lands: | |
| 693a. | For dredging at or near the public town wharf at Provincetown, a sum not exceeding four thousand dollars | 4,000 00 |
| | Functions of the department relating to Port of Boston, the following items are to be paid from the Port of Boston receipts): | |
| 696. | For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding three thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose | 3,000 00 |

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|------|---|------------|
| 697. | For the maintenance of pier one, at East Boston, a sum not exceeding two thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose. | \$2,000 00 |
| 700. | For the cost of inspection of structures in tidewater within Boston harbor, a sum not to exceed three thousand dollars, the same to be in addition to any amount heretofore appropriated therefor | 3,000 00 |

Miscellaneous.

The following items are to be paid from the Highway Fund, with the approval of the metropolitan district commission:

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|-------|---|-----------|
| 722. | For maintenance of boulevards and parkways, a sum not exceeding fourteen thousand three hundred and ninety-five dollars, the same to be in addition to any amount heretofore appropriated for the purpose | 14,395 00 |
| 724. | For expenses of supplies and services necessary for procuring Works Progress Administration funds, a sum not exceeding sixteen thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose | 16,000 00 |
| 726a. | For the purchase and erection of tablets for certain bridges, a sum not exceeding fifteen hundred dollars | 1,500 00 |

Other Appropriations

- | | | |
|------|---|----------|
| 36c. | For an investigation relative to the improvement of conditions at Musquashiat pond in the town of Scituate, as authorized by chapter thirteen of the resolves of the present year, a sum not exceeding three thousand dollars | 3,000 00 |
|------|---|----------|

DEFICIENCIES.

For deficiencies in certain appropriations of previous years, in certain items, as follows:

Service of the Department of Public Works.

- | | |
|---|-------|
| For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights; for payment of damages caused by defects in state highways with the approval of the attorney general; for care and repair of road-building machinery; and for the maintenance of a nursery for roadside planting, the sum of forty-five dollars and sixteen cents, to be paid from the Highway Fund | 45 16 |
| For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, the sum of eighty-eight dollars and fifty-nine cents | 88 59 |

SECTION 3. The following amendments and transfers are hereby authorized in appropriations previously made:

Department of Public Works.

The appropriation made by Item 677 of chapter two hundred and thirty-four of the acts of the present year, for expenses of a topographical survey and map of the commonwealth, is hereby made in addition to the unexpended balance of any appropriation heretofore made for the purpose.

The unexpended balance of the appropriation made by Item 666e of chapter four hundred and ninety-seven of the acts of nineteen hundred and thirty-five, for expenditures for flood control of the Housatonic river, is hereby reappropriated.

The unexpended balance of the appropriation made by Item 638 of chapter two hundred and forty-five of the acts of nineteen hundred and thirty-one, as most recently reappropriated by chapter two hundred and forty-nine of the acts of nineteen hundred and thirty-five, for certain work in the Taunton river authorized by chapter four hundred and five of the acts of nineteen hundred and thirty, is hereby again reappropriated.

Chapter four hundred and twenty-nine of the acts of nineteen hundred and thirty-six, providing for repair or reconstruction of certain bridges damaged by recent floods, is hereby amended by adding at the end the following new section:—*Section 8.* The comptroller is hereby authorized to certify for payment liabilities incurred by the department in anticipation of the receipt of the assessments to be made in nineteen hundred and thirty-eight on certain cities, towns and counties, as authorized by this act.

FURTHER SUPPLEMENTARY APPROPRIATIONS

Chapter 445, Acts of 1937, in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is in part, as follows:—

SECTION 1. To provide further for supplementing certain items in the general appropriation act, and for certain new activities and projects, the sums set forth in section two, for the particular purposes and subject to the conditions stated therein, are hereby appropriated from the general fund or ordinary revenue of the commonwealth, unless some other source of revenue is expressed, subject to the provisions of law regulating the disbursement of public funds and the approval thereof.

SECTION 2.

Item

- | | |
|---|------------|
| 36t. For an investigation relative to certain harbor improvements in the commonwealth, as authorized by chapter sixty-nine of the resolves of the present year, a sum not exceeding twenty-five hundred dollars | \$2,500 00 |
| 677a. For the meeting of payrolls and other compensation and expenses incurred by the department of public works as the agency of the commonwealth for the acquisition of lands, easements and rights of way and other duties, as provided in chapters three hundred and ninety-seven and four hundred and twenty-three of the acts of the present year, as amended, for flood control purposes in the Connecticut river valley and the Merrimack river valley, a sum not exceeding fifty thousand dollars, to be charged against receipts from the treasurers of the interstate compact commissions under the provisions of said chapters. | |
| 190a. For the compensation and incidental expenses of the members appointed to represent the commonwealth on the interstate compact commission relative to flood control of the Merrimack river, as authorized by chapter four hundred and twenty-three of the acts of the present year, as amended, a sum not exceeding four thousand dollars | 4,000 00 |
| 190b. For the compensation and incidental expenses of the members appointed to represent the common- | |

wealth on the interstate compact commission relative to flood control of the Connecticut river, as authorized by chapter three hundred and ninety-seven of the acts of the present year, as amended, a sum not exceeding four thousand dollars

\$4,000 00

726b. For the reconstruction of a bridge and its approaches over the Mystic river in the city of Medford and the town of Arlington by the metropolitan district commission, as authorized by chapter four hundred and thirty-two of the acts of the present year, a sum not exceeding fifty-two thousand five hundred dollars, to be paid from the Highway Fund .

52,500 00

HIGHWAY FUND DIVERSION

Chapter 443, Acts of 1937, provided for the transfer of the proceeds of the gasoline tax from the Highway Fund to the General Fund, as follows:

Whereas, The deferred operation of this act would tend to defeat its purpose, therefore it is hereby declared to be an emergency law, necessary for the immediate preservation of the public convenience.

The state treasurer is hereby authorized and directed to transfer the sum of six million six hundred thousand dollars from the Highway Fund to the General Fund.

FINANCIAL STATEMENTS

Summary of Income, Year Ending November 30, 1937

HIGHWAY FUND

(Section 34, Chapter 90, General Laws, as amended)

(See Chapter 288, Acts of 1925)

Fees (for registration of motor vehicles, licenses to operate etc.) and fines (penalties, Sundry Courts) net receipts	\$6,842,163.87
Gasoline Tax, net	19,820,398.39
Contributions for highways and assessments (G. L. Ch. 81)	37,629.39
Appropriation balances of previous years reverting	97,557.89
Contributions and refunds	26,233.66
Sale of old materials and buildings	7,498.65
Reimbursement for repairs to guard rail and other property	7,720.69
Rent of property (Nursery)	194.00
Rental of space, Public Works Building	52,242.88
Slot Machine Receipts	231.15
	<hr/>
	\$26,891,870.57

PORT OF BOSTON FUND

(Chapter 91, General Laws)

Rents (leases and permits)	\$153,986.86
Reimbursement for services (inspection of dumping dredged material in Boston Harbor)	42.08
Use of Comlth Pier No. 5 (wharfage, dockage, rentals, etc.)	143,625.36
Use of Comlth Pier No. 1 (rentals, etc.)	4,381.50
Revenue from permits for dumping dredged material at receiving basins	105.42
License charges	17,124.58
Telephone Pay Station receipts	339.83
Sales of land	38,465.00
Refunds	8,719.48
Appropriation balances of previous years reverting	4,482.28
Hayward Creek (Rental \$1,875.00, sale of land \$78,550.00)	80,425.00
	<hr/>
	\$451,697.39

DEPARTMENT INCOME

(Ordinary Revenue)

Sales (specifications and plans for contracts \$3,994)	\$4,094.50
License charges	2,254.38
Certifying copying charges	80.00
Sales of Atlas sheets and miscellaneous plans	1,234.02
Use of Province Lands (S. 25, C. 91, G. L.)	353.00
Permits for advertising signs	11,756.60
Use of New Bedford State Pier	29,509.72
Use of Cape Cod Canal State Pier	4,795.55
Use of Plymouth State Pier	33.00
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	\$54,110.77

IMPROVEMENT OF RIVERS AND HARBORS TRUST

(Sections 11, 29, Chapter 91, General Laws)

Contributions from towns, individuals or others	\$59,790.00
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HIGHWAY TRUST

(Section 30, Chapter 81, G. L.)

Federal Aid (reimbursement from United States Government)	6,529,183.64
Contribution from City of Revere (Chapter 375-1934 and 487-1935)	92,990.06

FUNDS CONTRIBUTED FOR SPECIAL P. W. A. BANK ACCOUNT
PROJECTS

<i>PWA 1361D—Central Bridge Lowell</i>	
Federal aid (reimbursement from U. S. Government)	\$66,500.00
City of Lowell	60,993.00
County of Middlesex	60,993.00
	<hr/>
	188,486.00
<i>PWA 1286D—Anchorage Basin, Hull</i>	
Federal aid (reimbursement from U. S. Government)	36,610.00
Town of Hull	5,000.00
	<hr/>
	41,610.00
<i>PWA 1301D—Comm. Pier No. 5</i>	
Federal aid (reimbursement from U. S. Government)	166,645.49
<i>PWA 1308D—Vineyard Haven Harbor</i>	
Federal aid (reimbursement from U. S. Government)	7,455.51
	<hr/>
<i>Total</i>	\$34,483,839.43

EXPENDITURES

The expenditures by the Department under the provisions of General Laws and other acts and the appropriation acts, chapter 234, 434 and 445, Acts of 1937, during the fiscal year ending November 30, 1937 were as follows:

ADMINISTRATIVE

Commissioners, Associate Commissioners, Personal services of clerks, stenographers, and Commissioners' travel	\$29,801.30
Public Works Building, operation and maintenance	133,333.70
Public Works Building, telephone services	26,261.01
Public Works Building, Salaries of Guards	32,515.98
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<i>Total</i>	\$221,911.99

RELATING TO HIGHWAYS

<i>Personal Services—Chief Engineer, Clerks and Stenographers</i>	\$95,911.24
<i>State Highways (Chapter 81, G. L.)</i>	
General contract work	\$1,666,703.87
Engineering, salaries and miscellaneous	648,059.54
Highway testing laboratory	10,381.86
Investigation of Worcester Pike	360.64
Inspection of bituminous concrete pavement (Technical services)	3,175.74
Consultant's services	1,544.92
Planning survey	4,538.16

Fore River Bridge			
Substructure	\$116,670.42		
Superstructure	100,000.00		
		216,670.42	
			2,551,435.15
<i>Maintenance and Repair of State Highways</i> (Chapter 81, G. L.)			
<i>Reconstruction of State Highways</i>			
General contract work	\$23,798.51		
Engineering, salaries and miscellaneous	46,275.98		
			70,074.49
<i>Ordinary Maintenance</i>			
General Maintenance	1,223,422.35		
Engineering, salaries and miscellaneous	382,381.49		
Highway testing laboratory	23,679.02		
Care and repair of road building machinery	397,269.20		
Removal of snow on highways	699,022.92		
Road planting and development	72,950.92		
Traffic engineering, signs and traffic count	199,243.61		
Paint manufacture	23,551.52		
Newburyport Bridge, Salisbury-Newbury- port, over Merrimack River, mainte- nance and operation	7,399.23		
Brightman St. Bridge, Fall River-Somer- set, maintenance and operation	15,550.42		
New Bedford-Fairhaven Bridge, Acushnet River, maintenance and operation	20,182.01		
Quincy-Weymouth Bridge, maintenance and operation	18,291.86		
Detour and route maps	1,827.87		
Geodetic survey	3,124.45		
Tractor repairs	7,891.03		
Inspection of bituminous concrete pave- ment (Technical service)	1,690.38		
			3,097,478.28
<i>Construction of Town and County Ways</i> (Sec. 34: Chapter 90, G. L.)			
State's expenditures for work contracted for in cities and towns	\$2,016,517.67		
Engineering and expense (supervision)	571,917.77		
Inspection of bituminous concrete pave- ment (Technical services)	14,924.62		
Slade's Ferry Bridge	20,863.25		
Hull	84,212.28		
			\$2,708,435.59
<i>Aiding Towns in the Repair and Improvement of Public Ways (Sec. 26, Chap. 81, G.L.)</i>			
State's expenditures for work contracted for in cities and towns	\$1,289,193.07		
Engineering and expense (supervision)	98,256.60		
			1,387,449.67
<i>Emergency Public Works Construction</i>			
<i>Special Acts</i>			
<i>Incidentals</i> (printing, postage, supplies, etc.)			16,832.22
<i>Advertising signs, regulation of personal services and expenses</i>			27,252.06
<i>Highways in Metropolitan District (Chap. 420, Acts of 1930 as amended by Chap. 450, Acts of 1931)</i>			
Section 1, Canton, Dedham, Welesley, etc.	20.00		

20		P.D. 54
Section 2, Canterbury St., Boston	10.00	
Section 3, Land Taking—Neponset River, Milton	7,769.48	
Section 4, West Roxbury-Brookline Parkway	36,850.00	
		44,649.48
<i>Abolition of Grade Crossings</i> (Chapter 417, Acts of 1930)		4,707.50
<i>Alewife Brook Parkway Extension</i> (Chapter 302, Acts of 1932)		8,401.89
<i>Traffic Circle Neponset River</i> (Chapter 341, Acts of 1934)		40.00
<i>Reconstruction of Ocean Ave., Revere</i> (Chapter 375, Acts of 1934)		51,785.86
<i>Central Bridge, Lowell</i> (Chap. 433, Acts of 1937)		131,488.73
<i>Suppression of Gypsy and Brown-tail Moths on State Highways in cities and towns</i>		12,238.90
<i>Topographical survey and maps</i>		35,428.60
<i>Chap. 464—Acts of 1935—Bond Issue</i>		
Class 2, Construction of sidewalks	\$83,589.34	
Class 3, Hayden-Cartwright Act	2,383,908.46	
Class 4, Grade Crossing, etc	4,528,542.34	
		\$6,996,040.14
<i>Chap. 186, Acts of 1936—State Highway Flood Damage</i>		87,399.07
<i>Chap. 429, Acts of 1936—Construction of Certain Bridges</i>		1,220,379.45
<i>Total Expenditures for Highways</i>		\$18,631,725.94

SUMMARY OF EXPENDITURES RELATING TO WATERWAYS
FISCAL YEAR ENDING NOVEMBER 30, 1937

General Expenses	\$54,334.80
<i>Boston Harbor:</i>	
Development of Rivers and Harbors Chap. 464, Acts of 1935, Class 5)	282,662.42
Dredging and Filling	87,859.63
Maintenance and Operation Commonwealth Pier 5, South Boston	114,885.73
Maintenance and Operation Commonwealth Pier 1, East Boston	7,025.23
Maintenance of Property	79,797.62
Streets, Piers and Railroads	10,450.84
Structures in tide water, Boston Harbor, inspection of	10,083.78
<i>Outside Boston Harbor:</i>	
Cape Cod Canal Pier, operation and maintenance	4,470.91
Compensation of Dumping Inspectors	152.85
Development of Rivers and Harbors (Chap. 464, Acts of 1935, Class 5)	2,109.41
Gloucester Fish Pier, construction	349,056.27
Harbor improvements, study relative to	2,497.71
Improvement of Rivers and Harbors	207,535.80
Nantucket Sound (Chap. 374, Acts of 1935)	24,635.91
New Bedford Pier, operation and maintenance	8,064.87
Plymouth Property, expenses of	3,117.53
Plymouth Pier, reconstruction (Chap. 429, Acts of 1935)	6,716.25
Province lands, expenses of	4,917.37
Repairing Damage to shores	6,841.12
Roughans Point, Revere (Chap. 358, Acts of 1936)	140,498.60
Salisbury Beach, improvement of (Chap. 399, Acts of 1934)	104.00
Stream Gauging	5,000.00

P.D. 54	21
Structures in Tide Water, outside Boston Harbor	3,772.03
Topographical Survey	810.07
Town Boundaries, surveying	290.71
W.P.A. Grants, expenses in connection with (Chap. 432, Acts of 1936)	23,970.45

<i>Total</i>	\$1,441,661.91
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EXPENDITURES RELATING TO THE REGISTRY OF MOTOR VEHICLES

Cost of Running the Registry of Motor Vehicles	\$1,577,788.09
Safety Work, Publicity	407.90

<i>Total</i>	\$1,578,195.99
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SUMMARY OF EXPENDITURES BY DEPARTMENT FOR YEAR ENDING NOVEMBER 30, 1937

Administrative	\$221,911.99
Relating to Highways	18,631,725.94
Registry of Motor Vehicles	1,578,195.99
Relating to Waterways	1,441,661.91

<i>Total</i>	\$21,873,495.83
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CO-OPERATIVE WORK—SUPERVISION OF EXPENDITURES

The Department has supervised the expenditures during the year by cities, towns and counties, under Chapter 81, General Laws, as amended, of approximately \$3,009,386.54 for co-operative work, in repairing, maintaining and improving certain public ways, and for other road work for which the towns and cities made contributions. All such work was carried out in conformity with contracts, specifications and plans approved by the Department.

Financial statement verified.

Approved

GEO. E. MURPHY, *Comptroller*.

RELATING TO HIGHWAYS

GENERAL STATEMENT

State Highways.—During the year ending November 30, 1937, the Department laid out new State Highways amounting to 10.75 miles in 7 cities and towns. Under Chapter 81, General Laws, as amended by Chapter 427, Acts of 1931, 3.45 miles of State Highways were discontinued or abandoned. The total length of State Highways at the end of the year was 1894.45 miles.

Highways Constructed in 1937.—Construction has been completed on 13.814 miles of State Highway, 166.245 miles of highway under the Provisions of Section 34, Chapter 90, General Laws as amended, and 5.947 miles of highway under the Provisions of Special Acts, making a total of 186.006 miles completed during the year.

Of the above highways completed this year, the classification according to type of pavement is as follows:

0.099 Mile of Dual (Reinf. Conc. and Bit. Macadam)
33.138 Miles of Bituminous Macadam
55.885 Miles of Bituminous Concrete
44.580 Miles of Bituminous Concrete (Mixed in Place)
17.122 Miles of Gravel with Bituminous Treatment
14.766 Miles of Gravel
20.416 Miles of Penolithic

Resurfacing, Reconstruction and Widening of Highways.—During the year 4.401 miles of highway were widened but not resurfaced, and

16.984 miles of State Highway were resurfaced or reconstructed and widened. In addition to this work on which the surfacing has been completed, there are several miles of road in various stages of completion which are scheduled to be finished next year.

The Resurfacing or Reconstruction of State Highways in 1937 was divided into types as follows:

- 1.301 Miles of Reinforced Cement Concrete
- 0.151 Miles of Bituminous Macadam
- 12.723 Miles of Bituminous Concrete
- 2.809 Miles of Penolithic

Surveys, Plans and Estimates.—During the year ending November 30, 1937, preliminary surveys, plans and estimates were made as follows:

For State Highway Construction.—Reconnaissance surveys and plans in 2 cities and 7 towns, 25.9 miles; reconnaissance estimates in 21 towns, 79.82 miles; preliminary surveys in 6 cities and 9 towns, 12.146 miles; plans in 6 cities and 9 towns, 15.883 miles; preliminary estimates in 5 cities and 7 towns, 13.560 miles; lines and grades in 5 cities and 7 towns, 13.560 miles; and final surveys in 2 cities and 5 towns, 5.682 miles.

For State Highway Reconstruction.—Reconnaissance surveys and plans in 1 town, 0.5 mile; reconnaissance estimates in 1 city and 2 towns, 4.8 miles; preliminary surveys in 4 cities and 14 towns, 25.575 miles; plans in 4 cities and 13 towns, 24.782 miles; preliminary estimates in 2 cities and 2 towns, 3.789 miles; lines and grades in 2 cities and 2 towns, 3.789 miles; and final surveys in 3 cities and 4 towns, 10.591 miles.

For State Highway Maintenance.—Preliminary surveys in 2 cities and 2 towns, 2.396 miles; plans in 2 cities and 3 towns, 1.591 miles; preliminary estimate in 1 city, 0.199 miles; lines and grades in 1 city; 0.199 miles; and final surveys in 3 towns, 0.252 miles.

Under Section 34, Chapter 90, General Laws, as Amended.—Reconnaissance surveys and plans in 1 city and 11 towns, 12.7 miles; reconnaissance estimates in 1 city, 0.208 miles; preliminary surveys in 27 cities and 137 towns, 153.452 miles; plans in 26 cities and 168 towns, 157.392 miles; preliminary estimates in 27 cities and 251 towns, 299.061 miles; lines and grades in 28 cities and 252 towns, 318.689 miles; and final surveys in 9 cities and 45 towns, 36.263 miles.

Under the Provisions of Various Acts and Resolves.—Surveys, plans, estimates, lines and grades, and final surveys were made as follows:

Chapter 24, Resolves of 1937: 0.568 mile of estimate in one city.

Chapter 60, Resolves of 1937: 48 miles of estimates in 4 cities and 11 towns.

Chapter 429, Acts of 1936: 4.530 miles of preliminary surveys in 2 cities and 18 towns; 4.294 miles of plans in 2 cities and 13 towns; 4.986 miles of preliminary estimates in 2 cities and 33 towns; 4.986 miles of lines and grades in 2 cities and 33 towns; and 2.074 miles of final surveys in 1 city and 11 towns.

Chapter 433, Acts of 1936: 0.265 mile of preliminary surveys in 1 city; 0.227 mile of plans in 1 city; 0.104 mile of preliminary estimate in 1 city; and 0.104 mile of lines and grades in 1 city.

Chapter 464, Acts of 1935: 0.227 mile of preliminary surveys in 1 town; 0.227 mile of plans in 1 town; 0.194 mile of preliminary estimates in 1 city and 1 town; 0.194 mile of lines and grades in 1 city and 1 town; and 11.943 miles of final surveys in 3 cities and 9 towns.

Chapter 488, Acts of 1935: 0.189 mile of preliminary survey and plan in 1 town.

During the year the Massachusetts Geodetic Survey, which is a Works Progress Administration Project sponsored by the Massachusetts Department of Public Works, has made level, traverse, and triangulation surveys, and has established bench marks, traverse and triangulation stations as follows:

345 miles of second order leveling, including 334 bench marks, in 56 cities and towns.

427 miles of first order leveling, including 660 bench marks, in 74 cities and towns.

2672.3 miles of triangulation, including 100 permanent triangulation stations, in 85 cities and towns.

392 miles of traverses, including 338 permanent traverse stations, in 106 cities and towns.

103 new town and city maps were drawn and 110 town and city maps were redrawn.

Permits.—There were 808 permits issued during the year for opening or occupying State Highways for various purposes.

Engineering Advice to Other Departments.—Advice to Department of Mental Diseases; preliminary surveys in 1 town, 1.136 miles; plans in 1 town, 0.157 mile; preliminary estimates in 1 town, 0.150 mile; lines and grades in 1 town, 0.150 mile; and final surveys in 1 town, 0.568 mile.

Engineering Advice to Municipal Authorities.—The Department furnished engineering advice without charge to 13 cities and towns in accordance with the provisions of Section 1, Chapter 81, General Laws.

Approval of Specifications.—The Department approved during the year under the provisions of Section 7, Chapter 44, General Laws, as amended, specifications for the construction of roads in 10 cities and towns.

Planting of Trees on State Highways.—During the past year 803 trees were planted along roadsides making a total of 76,956 trees thus set out in the past thirty-three years. In addition there were planted throughout the State 2444 shrubs.

PETITIONS, MEETINGS AND HEARINGS

In addition to the regular weekly meetings of the Department throughout the year, numerous hearings and conferences have been held, including the annual hearings in the several counties in the Commonwealth for the open discussion of questions relating to the public ways, as required by section 1, chapter 81, General Laws; appeals from the action taken by the Registrar of Motor Vehicles in the suspension or revocation of certain licenses to operate motor vehicles in 220 cases; on the matter of outdoor advertising in several towns and cities; on the matter of special regulations for motor vehicles in Melrose and Wellesley; on the matter of laying out a State highway in the towns of Petersham and New Salem under the provisions of Chapter 218 of the Acts of 1937; and on the matter of the elimination of grade crossings in Gardner, Worcester, North Adams and Milford.

Petitions were received and contracts signed during the year as follows:

	Petitions	Contracts
State Highways	4	3
Work under section 34, chapter 90, General Laws	—	552
Work under section 26, chapter 81, General Laws	177	177
Work under Special Acts	—	59
Elimination of Grade Crossings	—	6
Miscellaneous	—	11
Total	181	808

STATE HIGHWAYS

Petitions for State Highways

General Laws, chapter 81, section 4 (Tercentenary Edition), provides that—

“If county commissioners, aldermen or selectmen adjudge that public necessity and convenience require that the Commonwealth lay out and take charge of a new or existing way as a highway in whole or in part, in their county, city or town, they may apply, by a written petition, to

the department, requesting that said way be laid out and taken charge of by the commonwealth."

Petitions under the aforesaid section have been received during the year as follows:—

SELECTMEN OF AGAWAM:—Road extending from the bridge at the Agawam-West Springfield line westerly to the dividing line between the towns of Agawam and Southwick (known as Auto Route 57). Received January 19, 1937.

SELECTMEN OF LYNNFIELD:—Road locally known as Locust Street, extending from Salem Street to the dividing line between the town of Lynnfield and the city of Peabody. Received May 13, 1937.

SELECTMEN OF CLINTON:—Road locally known as High Street, Water Street, Main Street and the West Boylston Road, extending from the dividing line between the towns of Lancaster and Clinton to the dividing line between the towns of Clinton and Sterling. Received July 12, 1937.

SELECTMEN OF ANDOVER:—Road locally known as Lowell Street, extending from Shawsheen Village to the dividing line between the towns of Andover and Tewksbury. Received September 10, 1937.

CONSTRUCTION OF STATE HIGHWAYS

(Chapter 81, General Laws, as amended)

The following contracts were entered into during the year for the construction of State highways, and work incidental thereto, in various municipalities:—

Dartmouth and Westport

December 15, 1936, contract made with J. A. Singarella Construction Corp., of Boston, for constructing about 1,750 feet of State highway on State Road in Dartmouth, and about 450 feet of State highway on the same road in Westport, and constructing a dam and appurtenant structures in Dartmouth at Westport Factory, the surface of the highway consisting of bituminous concrete. The proposal amounted to \$113,399.75. Work completed September 18, 1937. Expenditure during 1937, \$111,586.61.

Fitchburg-Leominster

July 27, 1937, contract made with A. G. Tomasello & Son, Inc., of Boston, for constructing about 8,665 feet of State highway on new location in Leominster, about 2,800 feet on new location and 2,080 feet on 5th Massachusetts Turnpike in Fitchburg. The proposal amounted to \$345,111.58. Work about two-thirds completed. Expenditure during 1937, \$237,439.05.

Sheffield

July 21, 1937, contract made with B. A. Gardetto, Inc., of Boston, for constructing about 418 feet of State highway on Ashley Falls Road in Sheffield, the surface consisting of bituminous macadam. The proposal amounted to \$6,611.65. Work about one-fourth completed. Expenditure during 1937, \$1,748.53.

EXPENDITURES FOR CONSTRUCTION OF STATE HIGHWAYS

The expenditures for the construction of State highways in various Counties during the year were:—

Barnstable	\$372,680.63	Middlesex	\$447,950.73
Berkshire	7,151.90	Norfolk	84,065.71
Essex	192,312.98	Plymouth	1,061.86
Franklin	10,325.73	Suffolk	782,912.20
Hampden	4,771.98	Worcester	381,917.26
Hampshire,	49,613.75		
Total			\$2,334,764.73

Details of the foregoing expenditures follow:—

Barnstable County.—Bourne, \$33,176.72; Eastham, \$279,432.79; Falmouth, \$64.44; Orleans, \$60,006.68.

Berkshire County.—Cheshire, \$231.22; North Adams, \$76.22; Otis, \$77.09; Pittsfield, \$6,767.37.

Essex County.—Essex, \$562.11; Gloucester, \$562.09; Lynn, \$268.38; Peabody, \$14,008.28; Saugus, \$176,802.20; Swampscott, \$109.92.

Franklin County.—Charlemont, \$284.42; Greenfield, \$1,001.59; Montague, \$9,039.72.

Hampden County.—Brimfield, \$28.02; Holyoke, \$4,743.96.

Hampshire County.—Easthampton, \$28.02; Hadley, \$24,168.59; Huntington, \$328.41; Northampton, \$24,168.60; So. Hadley, \$920.13.

Middlesex County.—Billerica, \$1,711.00; Chelmsford, \$1,711.00; Concord, \$1,032.01; Dracut, \$106.46; Framingham, \$289.99; Malden, \$432.513.30; Newton, \$3,221.90; Tewksbury, \$3,378.80; Wayland, \$3,636.06; Woburn, \$350.21.

Norfolk County.—Braintree, \$41.77; Brookline, \$6,286.30; Cohasset, \$2,720.75; Dedham, \$39,903.50; Milton, \$969.64; Quincy, \$14,022.37; Wellesley, \$6,099.01; Weymouth, \$14,022.37.

Plymouth County.—Duxbury, \$7.00; Scituate, \$385.22; Wareham, \$669.64.

Suffolk County.—Boston, \$146,349.34; Revere, \$636,562.86.

Worcester County.—Athol, \$1,365.81; Fitchburg, \$177,430.59; Leominster, \$172,649.87; Millbury, \$28,994.70; Sutton, \$5.42; Webster, \$1,120.66; West Boylston, \$350.21.

HIGHWAY IMPROVEMENTS AUTHORIZED BY SPECIAL ACTS

Flood Bridges

Chapter 429, Acts of 1936

The reconstruction of Massachusetts bridges which were damaged during the flood of 1935 was financed partly by federal funds and partly by funds contributed by the state, counties, cities and towns.

The federal funds were authorized under the Emergency Relief Appropriation Act of 1936, approved June 22, 1936. These funds were apportioned to the states by the Department of Agriculture acting through the Bureau of Public Roads. In the majority of cases federal funds provided for 75% of the cost of a project.

The remainder of the cost was borne by the state, counties, cities and towns. The non-federal funds for those projects which were on state highways were financed under the provisions of Chapter 186 of the Acts of 1936. The greater part of the projects however were not on state highways and these projects were financed under the provisions of Chapter 429 of the Acts of 1936.

In accordance with the provisions of Chapter 429 of the Acts of 1936, providing for the repair or reconstruction of certain bridges damaged by recent floods, the following contracts were entered into:—

Pepperell

Dec. 30, 1936, contract made with Coleman Bros. Corporation, of Boston, for constructing a steel stringer bridge of four spans with a concrete deck at Station 10 on Main Street, over the Nashua River, and the approaches thereto, the surface on the approaches consisting of bituminous macadam, and the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$69,544.90. Work completed Nov. 24, 1937. Expenditure during 1937, \$72,636.82.

Leominster

Feb. 2, 1937, contract made with G. Bonazzoli & Sons, of Bolton, for constructing a steel stringer bridge of three spans with a concrete deck at Mechanic Street, over the Nashua River, and the approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place,

and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$49,226.90. Work completed Nov. 24, 1937. Expenditure during 1937, \$40,496.58.

Erving-Montague

Feb. 9, 1937, contract made with Charles I. Hosmer, Inc., of Greenfield, for constructing a steel truss bridge with concrete deck at Station 4+85.50, over Millers River, and the approaches thereto, the surface on the approaches consistig of bituminus macadam, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$50,142.00. Work completed Sept. 1, 1937. Expenditure during 1937, \$32,760.49.

Lancaster

March 9, 1937, contract made with Richard White Sons, Inc., of West Newton, for constructing a steel stringer bridge of two spans with concrete deck on Center Bridge Road over Nashua River, and the approaches thereto, the surface on the approaches consisting of bituminous macadam, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$43,960.30. Work completed Aug. 13, 1937. Expenditure during 1937, \$46,457.14.

Ludlow-Wilbraham

March 11, 1937, contract made with Mario Pandolf Company, Inc., of Needham, for constructing a two span continuous steel stringer bridge with a concrete deck between Ludlow and Wilbraham over the Chicopee River, and the approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place. The proposal amounted to \$64,950.15. Work about three-fourths completed. Expenditure during 1937, \$45,953.55.

Barre

March 30, 1937, contract made with E. Whitehead, Inc., of Worcester, for constructing a steel truss bridge with a concrete floor at South Barre over the Ware River, and the approaches thereto, the surface on the approaches consisting of broken stone and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$27,311.35. Work completed Nov. 26, 1937. Expenditure during 1937, \$23,649.80.

Dudley-Webster

April 20, 1937, contract made with G. Bonazzoli & Sons, of Hudson, for constructing a steel stringer bridge with concrete deck at Perryville over the Manexit River, and the approaches thereto, the surface on the approaches consisting of broken stone and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$18,853.50. Work completed Oct. 27, 1937. Expenditure during 1937, \$15,533.81.

Royalston

April 20, 1937, contract made with Marshall M. Day, of Athol, for constructing two steel pony truss bridges, one at King Street and the other at Baldwinville Road, over Millers River, and the approaches thereto, the surface on the approaches consisting of broken stone and tar mixed in place, and the surfaces on the bridges consisting of bituminous concrete. The proposal amounted to \$60,010.00. Work about one-fifth completed. Expenditure during 1937, \$12,545.68.

Bolton

April 20, 1937, contract made with Rendle Contracting Company, of Boston, for constructing a steel stringer bridge with concrete deck and precast concrete pile bents on Seven Bridge Road over Still River, and the approaches thereto, the surface on the approaches consisting of bituminous macadam, and the surface on the bridge consisting of bitum-

inous concrete. The proposal amounted to \$23,443.00. Work about four-fifths completed. Expenditure during 1937, \$19,414.72.

Gardner-Templeton

April 20, 1937, contract made with Antonio Pandiscio, of Fitchburg, for constructing a steel stringer bridge with concrete floor on Templeton Road over Otter River, and the approaches thereto, the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$8,936.50. Work completed Oct. 18, 1937. Expenditure during 1937, \$6,439.51.

Lunenburg

April 21, 1937, contract made with John Moran, Inc., of Fitchburg, for constructing a steel stringer bridge with concrete deck on Townsend Harbor Road over Mulpus Brook, and the approaches thereto, the surface of the approaches consisting of bituminous treated gravel, and the surface of the bridge consisting of bituminous concrete. The proposal amounted to \$10,728.30. Work completed September 22, 1937. Expenditure during 1937, \$8,987.31.

Athol-Orange

May 18, 1937, contract made with John Iafolla Construction Co., of Dedham, for constructing a steel stringer bridge with a concrete deck at Pinedale over Lawrence Brook, and the approaches thereto, the surface of the approaches consisting of broken stone and tar mixed in place, and the surface of the bridge consisting of bituminous concrete. The proposal amounted to \$23,712.00. Work about four-fifths completed. Expenditure during 1937, \$19,624.45.

Sterling

May 18, 1937, contract made with Sebastiano Cali, of Fitchburg, for constructing a concrete slab bridge on Bridge Road over East Wachusett Brook, and the approaches thereto, the surface of the approaches consisting of broken stone and tar mixed in place, and the surface of the bridge consisting of bituminous concrete. The proposal amounted to \$11,836.05. Work completed October 16, 1937. Expenditure during 1937, \$10,652.65.

Ware

May 19, 1937, contract made with H. P. Cummings Construction Company, of Ware, for constructing a steel stringer bridge with a concrete deck at Gibbs Crossing over Ware River, and the approaches thereto, the surface of the approaches consisting of a penolithic type of pavement, and the surface of the bridge consisting of bituminous concrete. The proposal amounted to \$49,684.70. Work about three-fifths completed. Expenditure during 1937, \$30,836.52.

Northfield

May 19, 1937, contract made with Charles I. Hosmer, Inc., of Greenfield, for constructing a steel stringer bridge with concrete deck on Burnham Road over Mill Brook, and the approaches thereto, the surface on the approaches consisting of broken stone and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$23,021.70. Work completed Nov. 6, 1937. Expenditure during 1937, \$18,079.67.

Petersham

May 19, 1937, contract made with Basilio Petricca, of Pittsfield, for constructing a steel stringer bridge with concrete deck at Station 66+68.17, over Swift River (East Branch), and the approaches thereto, the surface on the approaches consisting of bituminous macadam, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$27,606.00. Work completed Oct. 19, 1937. Expenditure during 1937, \$23,290.22.

Barre

May 19, 1937, contract made with John A. Gaffey & Son, of Medford, for constructing a steel stringer bridge with concrete deck on New Braintree Road over the Ware River, known as Powder Mill Bridge, and the approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$30,048.30. Work about one-half completed. Expenditure during 1937, \$16,641.72.

Hadley

June 1, 1937, contract made with Kelleher Corporation, of Montague, for constructing a concrete slab bridge on Main Street over Mill River, and the approaches thereto, the surface course on both bridge and approaches consisting of bituminous macadam. The proposal amounted to \$27,649.40. Work completed Nov. 2, 1937. Expenditure during 1937, \$24,864.23.

Ashfield

June 1, 1937, contract made with Kelleher Corporation, of Montague, for constructing a steel stringer bridge with concrete deck at Spruce Corner over Swift River, and the approaches thereto, the surface on the approaches consisting of bituminous treated gravel, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$17,741.00. Work completed September 25, 1937. Expenditure during 1937, \$15,103.45.

Palmer

June 1, 1937, contract made with B. A. Gardetto, Inc., of Boston, for constructing a concrete beam bridge on Main Street, and one on Church Street, both over the Ware River, and approaches thereto, the surface courses for the approaches to both bridges consisting of standard bituminous macadam, and the surface on both bridges consisting of bituminous concrete. The proposal amounted to \$76,227.10. Work about six-sevenths completed. Expenditure during 1937, \$63,260.32.

Ware

June 8, 1937, contract made with H. P. Cummings Construction Company of Ware, for constructing a steel stringer bridge with a concrete deck on Church Street over the Ware River, and approaches thereto, the surface on the approaches consisting of broken stone and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$44,291.20. Work about three-fourths completed. Expenditure during 1937, \$32,243.94.

Princeton-Sterling

June 15, 1937, contract made with Wachusett Engineering Co., of Fitchburg, for constructing a concrete slab bridge on Redemption Rock Trail over Keyes Brook between the towns of Princeton and Sterling, and approaches thereto, the surface on the approaches consisting of bituminous treated gravel, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$11,840.00. Work about five-sixths completed. Expenditure during 1937, \$10,064.08.

Hatfield

June 30, 1937, contract made with Kelleher Corporation, of Montague, for constructing a steel stringer bridge with concrete deck at station 5+54 on Bridge Street over Mill River, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$40,118.00. Work about three-fourths completed. Expenditure during 1937, \$31,394.32.

Belchertown-Palmer

June 30, 1937, contract made with Frank T. Wescott, of North Attleborough, for constructing a steel stringer bridge of three spans, with a concrete deck, on Depot Street over Swift River, and approaches thereto, the surface on the approaches consisting of bituminous macadam, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$54,312.25. Work about three-fifths completed. Expenditure during 1937, \$33,584.99.

Adams

June 30, 1937, contract made with Hubert W. Flaherty, of Adams, for constructing a steel stringer bridge with a concrete deck on Lime Street over the Hoosac River, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$29,810.75. Work about one-half completed. Expenditure during 1937, \$16,097.72.

Colrain

June 30, 1937, contract made with Charles I. Hosmer, Inc., of Greenfield, for constructing three bridges as follows, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place: a concrete rigid frame bridge at the site of the Frank Herzig Bridge over West Branch of North River, a concrete beam bridge over an overflow at the site of the Frank Herzig Bridge and a concrete rigid frame bridge at the site of the Robert Hillman Bridge over the West Branch of the North River. The proposal amounted to \$46,360.40. Work about ten-elevenths completed. Expenditure during 1937, 40,354.25.

Orange

July 6, 1937, contract made with Charles I. Hosmer, Inc., of Greenfield, for constructing a steel stringer bridge, dam, sluice gates and pen-stock extension at Orcutt Brook on Warwick Road, and approaches, the surface on the approaches consisting of broken stone and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$25,498.50. Work about four-fifths completed. Expenditure during 1937, \$20,043.85.

Uxbridge

July 6, 1937, contract made with Richard White Sons, Inc., of Newton, for constructing a steel stringer bridge with concrete deck on Mendon Street over the Blackstone River, and approaches thereto, the surface on both the bridge and approaches consisting of bituminous concrete. The proposal amounted to \$51,527.30. Work about four-fifths completed. Expenditure during 1937, \$39,892.07.

Princeton

July 6, 1937, contract made with R. H. Newell Company, of Uxbridge, for constructing a steel stringer bridge with concrete deck on Roper's Saw Mill Road over Ware River, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$10,358.00. Work completed October 30, 1937. Expenditure during 1937, \$8,312.56.

Holden

July 6, 1937, contract made with Charles A. E. LaRose, of Ware, for constructing a concrete beam and slab bridge on River Street over Quinapoxet River, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place. The proposal amounted to \$15,584.10. Work completed November 20, 1937. Expenditure during 1937, \$12,669.46.

Charlemont-Shelburne-Colrain

July 7, 1937, contract made with Charles I. Hosmer, Inc., of Greenfield, for constructing two steel arch bridges with concrete decks, as follow, and approaches thereto, the surface on the approaches to the Charlemont-Shelburne bridge consisting of broken stone and tar mixed in place, the surface on the westerly approach to the Colrain bridge consisting of bituminous treated gravel and the surface on the easterly approach to the Colrain bridge consisting of bituminous macadam: one bridge known as Four Mile Square Bridge is to be constructed over the North River in Charlemont and Shelburne, and one bridge is to be constructed on Adamsville Road over the North River, in the town of Colrain, the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$99,591.50. Work about one-twelfth completed. Expenditure during 1937, \$8,927.55

Sutton

July 7, 1937, contract made with A. Grande, of Boston, for constructing a steel stringer bridge with concrete deck on Stevens Street over Mumford River, and approaches thereto, the surface on the approaches consisting of broken stone and tar mixed in place, and the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$25,967.00. Work about two-fifths completed. Expenditure during 1937, \$17,440.68.

Berlin

July 7, 1937, contract made with John Moran, Inc., of Fitchburg, for constructing a steel stringer bridge with concrete deck on Bridge Road over Assabet River, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$22,998.50. Work about nine-elevenths completed. Expenditure during 1937, \$18,824.31.

Orange

July 7, 1937, contract made with Louis Balboni, Inc., of Boston, for constructing a steel stringer bridge with concrete deck on Holtshire Street over Millers River, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$33,630.50. Work about one-half completed. Expenditure during 1937, \$14,169.50.

Athol-Orange

July 7, 1937, contract made with Louis Balboni, Inc., of Boston, for constructing a steel stringer bridge with concrete deck at Fryeville over Lawrence Brook, and approaches thereto, the surface on the approaches consisting of broken stone and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$17,040.80. Work about two-thirds completed. Expenditure during 1937, \$11,409.16.

Winchendon

July 7, 1937, contract made with G. Bonazzoli & Sons, of Hudson, for constructing a steel stringer bridge with concrete deck on High Street over Millers River, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$24,310.75. Work about five-sixths completed. Expenditure during 1937, \$19,737.85.

Athol

July 7, 1937, contract made with Charles I. Hosmer, Inc., of Greenfield, for constructing a steel stringer bridge with concrete deck on Crescent Street over Millers River, and approaches thereto, the surface on the approaches and on the bridge consisting of bituminous concrete. The

proposal amounted to \$33,507.00. Work about one-half completed. Expenditure during 1937, \$16,407.55.

Dudley

July 7, 1937, contract made with A. Grande, of Boston, for constructing a steel stringer bridge with a concrete deck on Brandon Road over French River, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$21,020.50. Work about six-sevenths completed. Expenditure during 1937, \$17,530.20.

Pepperell

June 22, 1937, contract made with Coleman Bros. Corporation, of Boston, for constructing a concrete rigid frame bridge on Mill Street over Nissitisset River, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$26,147.50. Work about five-sixths completed. Expenditure during 1937, \$22,222.77.

Fitchburg

July 14, 1937, contract made with Wachusett Engineering Co., Inc., of Fitchburg, for constructing a steel stringer bridge with concrete deck on Circle Street over the Nashua River, and approaches thereto, the surface on the easterly approach to the bridge and the surface on the bridge consisting of bituminous concrete, and the surface on the westerly approach to the bridge consisting of granite blocks. The proposal amounted to \$33,654.50. Work about nine-elevenths completed. Expenditure during 1937, \$27,140.53.

Northfield

July 19, 1937, contract made with Warnard Constructors Inc., of Northfield, for constructing a concrete box culvert and steel penstock on Mount Hermon Road at the outlet to Nelson Pond, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place. The proposal amounted to \$10,432.00. Work about seven-tenths completed. Expenditure during 1937, \$7,980.65.

Townsend

Aug. 24, 1937, contract made with Antonio Pandiscio, of Fitchburg, for constructing a steel through plate girder bridge with a concrete deck on South Street over Squannacook River, and approaches thereto, the surface on the approaches consisting of gravel and tar mixed in place. The proposal amounted to \$17,834.10. Work about five-ninths completed. Expenditure during 1937, \$9,813.25.

Pepperell

Aug. 25, 1937, contract made with Romano Cement Construction Company of Fitchburg, for furnishing and placing new supports, removing existing walls and constructing a new wall under the mill office and restaurant building of the Nashua Paper Company located on Main Street, over the Nashua River. The proposal amounted to \$3,810.25. Work completed Nov. 13, 1937. Expenditure during 1937, \$3,215.04.

Orange

Aug. 31, 1937, contract made with Charles I. Hosmer, Inc., of Greenfield, for constructing a steel stringer bridge with concrete deck on South Main Street over Millers River, and approaches thereto, the surface on the approaches and on the bridge consisting of bituminous concrete. The proposal amounted to \$71,435.10. Work about one-ninth completed. Expenditure during 1937, \$8,583.30.

Lowell

Nov. 16, 1937, contract made with Frederick W. Byron, of Cambridge, for repairing the Moody Street Bridge over the Merrimack River. The proposal amounted to \$8,602.50. Work not yet started. No expenditure during 1937.

The expenditures during the year under Chapter 429 (Acts of 1936) for the construction of certain bridges in various counties were as follows:

Berkshire	\$ 19,765.15	Hampshire	\$131,505.32
Franklin	221,858.63	Middlesex	135,499.20
Hampden	159,082.61	Worcester	533,449.26
Total		<u>\$1,201,160.17</u>	

Berkshire Co.

<i>Project</i>	<i>Town</i>	<i>Sub-total</i>	<i>Total</i>
WPFR-1	Adams		\$18,899.35
H.B. 5-2	Cheshire		148.23
H.B. 18-1	North Adams		36.40
H.B. 30-2	Sandisfield		578.99
H.B. 39-2	Windsor		102.18
			<u>\$19,765.15</u>

Franklin Co.

WPFR-24	Ashfield		17,255.19
H.B. 2-2	Charlemont		630.45
H.B. 2-12	Colrain	\$2,670.34	
H.B. 2-7	Colrain	1,556.30	
WPFR-8	Colrain	32,542.10	
WPFR 5	Colrain	5,509.39	
WPFR 12	Colrain	12,946.24	
WPFR 6	Colrain	11,017.75	
			<u>66,242.12</u>
H.B. 2-8	Conway	143.80	
WPFR 136	Conway	244.98	
			<u>388.78</u>
WPFR 10	Erving		26,764.11
H.B. 2-1	Montague	346.90	
H.B. 2-9	Montague	2,613.21	
WPFR 10	Montague	9,074.28	
			<u>12,034.39</u>
H.B. 2-10	Northfield	2,057.48	
WPFR-17	Northfield	20,896.08	
WPFR 14	Northfield	9,524.69	
			<u>32,478.25</u>
WPFR 22	Orange	22,003.65	
WPFR 18	Orange	10,317.87	
WPFR 21	Orange	16,229.28	
WPFR 19	Orange	6,903.96	
WPFR 20	Orange	10,260.01	
			<u>65,714.77</u>
H.B. 2-4	Warwick		127.93
H.B. 2-3	Wendell		222.64
			<u>\$221,858.63</u>

Hampden Co.

WPFR 36	Belchertown-Palmer		36,231.70
H.B. 4-18	Blandford	64.61	
H.B. 4-2	Blandford	174.50	
			<u>239.11</u>

P.D. 54							33
H.B.	3-38	Brimfield	.	.	.	245.56	
H.B.	3-39	Brimfield	.	.	.	197.09	
							442.65
H.B.	6-2	Chester	.	.	.	.	80.90
H.B.	2-5	Easthampton	.	.	.	.	280.13
WPFR-33		Ludlow	.	.	.	.	25,468.62
WPFR 34		Palmer	.	.	.	37,855.71	
WPFR 35		Palmer	.	.	.	33,837.06	
							71,692.77
WPFR 33		Wilbraham	.	.	.	.	24,646.73
							<u>\$159,082.61</u>

Hampshire Co.

<i>Project</i>	<i>Town</i>	<i>Sub-total</i>	<i>Total</i>
WPFR-29	Hadley	.	\$27,028.65
WPFR 30	Hatfield	.	
		34,591.90	
H.B. 2-11	Hatfield	.	
		786.80	
H.B. 2-13	Hatfield	.	
		25.00	
			35,403.70
H.B. 2-6	Ware	.	
		1,834.39	
WPFR 32	Ware	.	
		34,570.45	
WPFR 31	Ware	.	
		32,668.13	
			69,072.97
			<u>\$131,505.32</u>

Middlesex Co.

H.B.	4-25	Acton	.	.	.	.	1,879.02
H.B.	4-15	Dracut	.	.	.	.	337.53
H.B.	4-9	Framingham	.	.	.	.	3.75
H.B.	4-24	Hudson	.	.	.	.	78.75
WPFR-39		Lowell	.	.	.	606.24	
H.B.	4-19	Lowell	.	.	.	2,528.53	
H.B.	4-12	Lowell	.	.	.	96.00	
							3,230.77
H.B.	4-23	Maynard	.	.	.	.	3,715.02
WPFR-42		Pepperell	.	.	.	25,642.66	
WPFR 43 No.1		Pepperell	.	.	.	76,830.27	
WPFR 43 No.2		Pepperell	.	.	.	3,589.97	
H.B.	4-6	Pepperell	.	.	.	1,006.49	
							107,069.39
H.B.	4-4	Shirley	.	.	.	453.67	
H.B.	4-5	Shirley	.	.	.	481.80	
H.B.	4-22	Shirley	.	.	.	2,705.63	
							3,641.10
WPFR-45		Townsend	.	.	.	11,214.38	
H.B.	4-11	Townsend	.	.	.	554.80	
H.B.	4-20	Townsend	.	.	.	3,774.69	
							15,543.87
							<u>\$135,499.20</u>

Worcester Co.

H.B.	3-35	Ashburnham	.	.	.	422.71	
H.B.	3-60	Ashburnham	.	.	.	369.29	
H.B.	3-66	Ashburnham	.	.	.	1,930.55	
H.B.	3-95	Ashburnham	.	.	.	1,069.05	
H.B.	3-67	Ashburnham	.	.	.	50.00	
H.B.	3-86	Ashburnham	.	.	.	403.12	
H.B.	3-78	Ashburnham	.	.	.	923.85	
H.B.	3-36	Ashburnham	.	.	.	160.05	
H.B.	3-80	Ashburnham	.	.	.	2,250.22	
							7,578.84

H.B. 3-15	Athol	260.81	
H.B. 3-97	Athol	1,350.45	
H.B. 3-70	Athol	1,250.58	
H.B. 3-64	Athol	453.81	
WPFR 53	Athol	17,277.11	
WPFR 19	Athol	6,694.55	
WPFR 20	Athol	11,222.43	
			38,509.74
WPFR 58	Barre	18,676.08	
WPFR 59	Barre	25,530.47	
H.B. 3-100	Barre	2,321.13	
			46,527.68
H.B. 3-22	Berlin	268.78	
WPFR 60	Berlin	19,541.94	
			19,810.72
H.B. 3-28	Blackstone		507.57
WPFR-61	Bolton		21,302.28
H.B. 3-58	Charlton	417.22	
H.B. 3-55	Charlton	498.36	
H.B. 3-84	Charlton	923.54	
H.B. 3-17	Charlton	144.25	
			1,983.37
H.B. 3-77	Clinton		2,429.18
H.B. 3-34	Dana	12.60	
H.B. 3-33	Dana	330.97	
			343.57
WPFR 66	Dudley	18,865.39	
H.B. 3-16	Dudley	250.03	
WPFR 67	Dudley	8,772.71	
			27,888.13
H.B. 3-46	E. Brookfield		21.60
H.B. 3-43	Fitchburg	1,951.36	
WPFR 69	Fitchburg	29,399.81	
			31,351.17
WPFR 106	Gardner		4,110.75
H.B. 3-41	Grafton		438.04
H.B. 3-32	Hardwick	33.87	
H.B. 3-37	Hardwick	14.17	
H.B. 3-14	Hardwick	3.20	
			51.24
H.B. 3-94	Holden	2,208.52	
H.B. 3-72	Holden	1,618.57	
WPFR 71	Holden	14,029.54	
			17,856.63
H.B. 3-29	Hubbardston	64.42	
H.B. 3-19	Hubbardston	25.96	
H.B. 3-57	Hubbardston	45.75	
			136.13
WPFR 76	Lancaster		49,620.13
H.B. 3-2	Leicester	187.86	
H.B. {3-3 & 3-12	Leicester	525.31	
H.B. 3-40	Leicester	20.63	
H.B. 3-4	Leicester	20.63	
			754.43
H.B. 3-11	Leominster	118.76	
WPFR 77	Leominster	43,538.36	
			43,657.12

WPFR 78	Lunenburg	10,316.16	
H.B. 3-5	Lunenburg	145.26	
H.B. 3-62	Lunenburg	2,224.13	
			12,685.55
H.B. 3-20	Mendon		276.97
H.B. 3-82	Millbury		1,363.87
H.B. 3-47	Oxford	146.96	
H.B. 3-83	Oxford	618.24	
H.B. 3-7	Oxford	346.19	
WPFR 82	Oxford	784.31	
			1,895.70
H.B. 3-30	Petersham	66.99	
H.B. 3-56	Petersham	701.57	
H.B. 3-81	Petersham	2,509.90	
WPFR 86	Petersham	24,592.64	
			27,871.10
H.B. 3-51	Phillipston		16.07
H.B. 3-96	Princeton	10.00	
H.B. 3-71	Princeton	2,279.05	
H.B. 3-21	Princeton	48.56	
WPFR 87	Princeton	9,185.87	
WPFR 90	Princeton	5,839.08	
			17,362.56
WPFR 91	Royalston	3,662.51	
WPFR 133	Royalston	12,421.65	
H.B. 3-61	Royalston	2,050.22	
H.B. 3-50	Royalston	340.38	
H.B. 3-69	Royalston	1,042.38	
H.B. 3-49	Royalston	359.38	
			19,876.52
H.B. 3-98	Rutland	2,055.63	
H.B. 3-99	Rutland	738.82	
			\$2,794.45
H.B. 3-59	Southbridge		1,197.78
H.B. 3-13	Spencer	345.94	
H.B. 3-91	Spencer	1,277.42	
H.B. 3-89	Spencer	937.35	
H.B. 3-68	Spencer	70.00	
H.B. 3-87	Spencer	50.00	
			2,680.71
WPFR 90	Sterling	5,839.09	
WPFR 104	Sterling	12,130.59	
H.B. 3-25	Sterling	778.67	
H.B. 3-23	Sterling	1,171.07	
H.B. 3-26	Sterling	468.13	
H.B. 3-24	Sterling	712.19	
			21,099.74
WPFR 105	Sutton		19,387.00
WPFR 3-73	Templeton	2,211.03	
WPFR 106	Templeton	3,843.48	
			6,054.51
H.B. 3-74	Upton	1,581.70	
H.B. 3-90	Upton	911.19	
H.B. 3-54	Upton	484.69	
			2,977.58
H.B. 3-63	Uxbridge	993.75	
H.B. 3-9	Uxbridge	463.60	
WPFR 112	Uxbridge	41,764.99	
			43,222.34

36				P.D. 54
H.B.	3-79	Warren		1,820.76
WPFR	67	Webster		8,248.45
H.B.	3-27	Westborough		244.29
H.B.	3-1	W. Boylston		707.67
H.B.	3-45	W. Brookfield	17.55	
H.B.	3-48	W. Brookfield	17.55	
				35.10
H.B.	3-65	Westminster		1,821.81
H.B.	3-75	Winchendon	30.75	
H.B.	3-76	Winchendon	1,086.09	
H.B.	3-88	Winchendon	100.00	
H.B.	3-93	Winchendon	90.00	
H.B.	3-92	Winchendon	40.00	
H.B.	3-85	Winchendon	544.55	
WPFR	122	Winchendon	655.41	
WPFR	124	Winchendon	21,257.59	
WPFR	126	Winchendon	70.37	
				23,874.76
H.B.	3-42	Worcester		1,055.65
				\$533,449.26

RECONSTRUCTION AND REPAIR OF STATE HIGHWAYS DAMAGED BY FLOODS

In accordance with the provisions of Chapter 186 of the Acts of 1936, an Act making an emergency appropriation for the reconstruction and repair of State Highways damaged by floods, the following contracts were entered into:—

Sutton

January 25, 1937, contract made with Leo J. Nawn, Inc., of Boston, for constructing a steel stringer bridge with concrete deck at station 29+24.42 on Manchaug Street over Mumford River, and approaches thereto, the surface on the approaches consisting of bituminous macadam, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$20,482.90. Work completed Oct. 2, 1937. Expenditure during 1937, \$18,997.03.

Fitchburg

March 24, 1937, contract made with David Pellicchia & Co., of Leominster, for constructing a concrete box bridge at station 15+91.5 over Baker Brook, and approaches thereto, the surface on the approaches consisting of bituminous macadam. The proposal amounted to \$13,339.45. Work completed October 30, 1937. Expenditure during 1937, \$12,236.65.

Winchendon

April 20, 1937, contract made with B. A. Gardetto, Inc., of Boston, for constructing a concrete slab bridge of two spans at station 76+36.13 on Maple Street over Millers River, and a steel stringer bridge with concrete deck at station 8+71.95 on Ashburnham Road over Millers River, and approaches thereto, the surface on the approaches consisting of bituminous macadam, and the surface on the bridges consisting of bituminous concrete. The proposal amounted to \$30,129.50. Work completed Oct. 22, 1937. Expenditure during 1937, \$25,040.84.

Sutton

July 19, 1937, contract made with Middlesex Construction Company, of Framingham, for constructing a concrete retaining wall at about station 28+90 connecting with the southeasterly wing wall of the proposed State Highway Bridge over Mumford River, together with a gravel driveway and incidental work. The proposal amounted to \$2,274.50. Work completed Oct. 16, 1937. Expenditure during 1937, \$1,985.48.

BRIDGES OVER CONNECTICUT RIVER AND MERRIMACK RIVER

In accordance with the provisions of Chapter 433 of the Acts of 1936, an Act providing for the construction or reconstruction of three bridges over the Connecticut River and one bridge over the Merrimack River, the following contracts were entered into:—

Lowell

Jan. 26, 1937, contract made with Coleman Bros. Corporation, of Boston, for constructing a temporary foot bridge of the suspension type over the Merrimack River southerly of Central Bridge, together with a lighting system, and approaches thereto. The proposal amounted to \$34,980.00. Work completed June 30, 1937. Expenditure during 1937, \$34,358.08.

Gill-Montague

May 10, 1937, contract made with Daniel O'Connell's Sons, Inc., of Holyoke, for constructing a deck steel bridge of six spans with a concrete deck at Turners Falls, over the Connecticut River, a canal and a spur track of the New York, New Haven and Hartford Railroad Company, and approaches thereto, the surface course on the approaches and ramps consisting of bituminous macadam, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$860,567.89. Work about one-third completed. Expenditure during 1937, \$328,487.92.

Lowell

May 19, 1937, contract made with Coleman Bros. Corporation of Boston, for constructing a three span steel bridge of the cantilever through truss type, to be known as Central Bridge, on Bridge Street over the Merrimack River, the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$318,909.00. Work about one-fifth completed. Expenditure during 1937, \$64,092.15.

Deerfield-Sunderland

July 7, 1937, contract made with F. & M. Sand & Gravel Corporation of Woburn, for constructing about 1,937 feet of approaches to the Connecticut River Bridge in Deerfield and Sunderland, the surface course consisting of bituminous macadam. The proposal amounted to \$57,161.60. Work about three-fifths completed. Expenditure during 1937, \$34,510.07.

Lowell

Oct. 8, 1937, contract made with Coleman Bros. Corporation of Boston, for constructing a steel stringer bridge with concrete deck on Bridge Street over Eastern Canal, and approaches thereto, the surface on the approaches consisting of bituminous concrete. The proposal amounted to \$22,850.75. Work not yet commenced. No expenditure during 1937.

Hadley-Northampton

Nov. 2, 1937, contract made with T. Stuart & Son Company, of Watertown, for constructing a five span steel deck truss bridge with concrete floor, to be known as the Calvin Coolidge Memorial Bridge, over the Connecticut River between Hadley and Northampton, and approaches and ramps thereto, the surface on the approaches and ramps consisting of standard bituminous macadam, and the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$1,193,230.95. Work just commenced. Expenditure during 1937, \$1,496.00.

REPAIR OF SLADES FERRY BRIDGE

In accordance with the provisions of Chapter 488 of the Acts of 1935, an Act reallocating the cost of the repair of the Slades Ferry Bridge, so called, over the Taunton River, the following contract was entered into:—

Fall River-Somerset

August 11, 1937, contract made with Coleman Bros. Corporation, of Boston, for reconstructing as a single deck bridge the existing double

deck bridge over the Taunton River known as Slades Ferry Bridge. The proposal amounted to \$224,490.00. Work just commenced. Expenditure during 1937, \$16,188.67.

HUNTINGTON AVENUE OVERPASS

In accordance with the provisions of Chapter 380 of the Acts of 1934, an Act authorizing the construction of an overpass over Huntington Avenue at or near its intersection with Riverway and Jamaica way in Boston and Brookline, as amended by Chapter 368 of the Acts of 1935, the following contract was entered into:—

Boston

July 14, 1937, contract made with Edward M. Matz, Inc., of Boston, for constructing a steel pile and concrete viaduct on the southerly approach to the bridge over Huntington Avenue at Riverway-Jamaicaway and miscellaneous work, the surface of the viaduct consisting of bituminous concrete. The proposal amounted to \$91,184.60. Work about two-thirds completed. Expenditure during 1937, \$59,188.88.

SIDEWALK, GEORGE WASHINGTON HIGHWAY, HINGHAM

In accordance with the provisions of Chapter 464 of the Acts of 1935, an Act providing a public works program for the purpose of alleviating existing conditions resulting from unemployment, the following contract was entered into:—

Hingham

Aug. 3, 1937, contract made with Edward M. Matz, Inc., of Boston, for constructing a granolithic walk, a gravel shoulder and a loam area in front of the County Court House in Hingham, on the George Washington Highway. The proposal amounted to \$1,529.75. Work completed Sept. 18, 1937. Expenditure during 1937, \$1,405.77.

DRIVEWAY, MONSON STATE HOSPITAL

In accordance with the provisions of Item 498, Chapter 304 of the Acts of 1936, an Act making appropriations for the maintenance of Departments, Boards, Commissions, Institutions, etc., the following contract was entered into by the Department, for the Department of Mental Diseases:—

Monson

April 20, 1937, contract made with S. Rotondi & Sons, of Stoneham, for constructing a driveway at the Monson State Hospital, at about station 0+00 on the southerly side of the Dining Room and Kitchen and extending around the easterly side of the hospital building to about station 3+60 on the Main Drive, the surface consisting of a penolithic type of surfacing. The proposal amounted to \$12,092.30. Work completed Nov. 24, 1937. Expenditure during 1937, \$10,703.20.

ABOLITION OF GRADE CROSSINGS

(*General Laws, Section 70, Chapter 159, as amended by Section 1, Chapter 357 of the Acts of 1934*)

The following contracts were entered into for the elimination of grade crossings:—

Attleboro-Pawtucket

Feb. 2, 1937, contract made with Arute Bros., Incorporated, of Bridge-water, for constructing a steel stringer bridge of three spans with a concrete deck on Washington Street in Attleboro, at station 268+82.71, over the New York, New Haven and Hartford Railroad, and approach thereto, the surface on the approach consisting of two lanes of cement concrete and three lanes of bituminous macadam, and the surface on the

bridge consisting of bituminous concrete. The proposal amounted to \$80,210.73. Work completed Aug. 24, 1937. Expenditure during 1937, \$66,562.02.

Huntington

May 26, 1937, contract made with Arute Bros., Incorporated, of Bridgewater, for constructing a multiple span bridge at Main Street over Westfield River, over the tracks of the Boston and Albany Railroad and over a proposed roadway, together with a ramp, stairways and other structures, and approaches thereto, the surface on the approaches consisting of bituminous macadam, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$289,824.65. Work about one-half completed. Expenditure during 1937, \$139,077.26.

Milford

June 8, 1937, contract made with M. DeMatteo Co., of Roslindale, for constructing a three span steel stringer bridge with concrete deck at station 10+96.68 on Medway Street, over the Boston and Albany Railroad (Milford Branch), and approaches thereto, the surface course for the approaches consisting of bituminous macadam, and the surface on the bridge consisting of bituminous concrete. The proposal amounted to \$103,307.65. Work about one-half completed. Expenditure during 1937, \$54,468.48.

Braintree

June 22, 1937, contract made with M. F. Gaddis, Inc., of Boston, for constructing a steel plate girder bridge to carry the tracks of the New York, New Haven and Hartford Railroad over Union Street in Braintree, 0.36 miles north of South Braintree Station, and about 1,600 feet of highway on new location, the surface consisting of bituminous macadam. The proposal amounted to \$155,339.55. Work about one-third completed. Expenditure during 1937, \$57,834.62.

The following contracts were entered into in connection with the elimination of grade crossings:—

Quincy

August 25, 1937, contract made with Chandler Construction Company, Inc., of Boston, for constructing canopies, shelter shed, lighting system and miscellaneous work at the site of the bridge on Water Street over the New York, New Haven and Hartford Railroad. The proposal amounted to \$19,739.00. Work completed November 30, 1937. Expenditure during 1937, \$16,377.38.

Sharon

Nov. 16, 1937, contract made with Walter L. Ritchie, of Somerville, for constructing canopies, shelter shed, lighting system, intertrack fence and miscellaneous work at the site of the bridge on Depot Street over the New York, New Haven and Hartford Railroad. The proposal amounted to \$9,789.00. Work not yet commenced. No expenditure during 1937.

RECONSTRUCTION OR REPAIR OF CITY AND TOWN BRIDGES DAMAGED BY THE 1936 FLOODS

Work done by force account under provisions of Chapter 429, Acts of 1936

The work done under Chapter 429, Acts of 1936, for the reconstruction of city and town bridges was done by force account and as W.P.A. projects. A total of 115 such projects were approved, 55 bridges being rebuilt to replace those that had been destroyed, and repairs were made to 60 bridges damaged by the flood.

55 BRIDGES REPLACED WITH NEW STRUCTURES

Acton—River Street over Fort Pond Brook, new multi-plate arch bridge, stone faced, one 23 foot span, two 9 foot spans.

Ashburnham—Fitchburg Road over an outlet of Billy Ward Pond, new standard 19 x 6 box type bridge, one 19 foot span.

Ashburnham—Lake Road over Watatic Club Brook, new rigid frame box type bridge, one 15 foot span.

Ashburnham—Main Street, Auto route 12, over Phillips Brook, new reinforced concrete slab on gravity abutments with rubble masonry walls, one 15 foot span.

Ashburnham—Sherbert Road (23-A) over Naumkeag Brook, new reinforced concrete deck on steel stringers on gravity abutments, one 20 foot span.

Ashburnham—Sherbert Road (23-B) over Millers River, new reinforced concrete deck on steel stringers on concrete abutments, one 17 foot span.

Ashburnham—Williams Street over Town Farm Brook, new concrete slab on gravity abutments, one 8 foot span.

Athol—New Salem Road, Auto Route 21 over Oliver Brook, new rigid frame box type bridge, one 11 foot span.

Athol—Washington Avenue over Oliver Brook, new concrete slab on steel stringers on gravity abutments, one 26 foot span.

Barre—Mechanic Street over Prince River, new multiple metal arch on concrete abutments with rubble stone masonry wing walls, one 19 foot span.

Blandford—School House Hill over Freeland Brook, new corrugated multi-plate arch bridge, one 15 foot span.

Charlemont—Warner Bridge over Mill Brook, new plank floor on steel I beams on cement rubble masonry abutments with cement rubble masonry wing walls, one 18 foot span.

Charlton—Grover Road over Little River, new wooden superstructure of plank floor on 6" x 14" stringers on cement rubble masonry abutments, one 20 foot span.

Charlton—Oxford Road over Little River, rubble masonry arch bridge removed and rebuilt, new rubble masonry walls, one 19 foot span.

Clinton—Brook Road over Counterpane Brook, new rigid frame box type bridge, one 11 foot span.

Colrain—Adamsville Bridge over Sanders Brook, new reinforced concrete slab bridge with rubble concrete abutments and wing walls, one 17.83 foot span.

Colrain—Starkey Bridge over West Branch River tributary, new reinforced concrete slab bridge with rubble concrete abutments and wing walls, one 20 foot span.

Fitchburg—Townsend Street over Bakers Brook, new reinforced concrete slab deck on steel stringers on stone masonry abutments, one 32 foot span.

Hatfield—Chestnut Street over overflow for Mill River, four 48" corrugated metal pipes protected by rip rap.

Holden—Mill Creet over Quinapoxet River, new reinforced concrete deck on steel stringers over 30 foot center span, reinforced concrete slab over two 10.5 foot end spans, on plain concrete abutments and cement rubble masonry piers.

Holden—Princeton Road over Quinapoxet River, new corrugated metal arch on concrete abutments with rubble masonry wing walls, one 23 foot span.

Leicester—Cross Street over Stream not named, a 20" pipe culvert was replaced by a 48" C.C.M. pipe culvert with rubble stone masonry ends.

Leicester—Mulberry Street over Kettle Brook, new standard 14 foot by 6 foot reinforced concrete box type bridge, one 6 foot span.

Leicester—Pine Street over Twin Meadow Brook, new standard 14 foot by 6 foot box type bridge, one 14 foot span.

Lunenburg—Cross Street over Mulpus Brook, new wooden king post truss with wooden floor beams and plank floor on rubble stone masonry abutments, one 20 foot span.

Lunenburg—Young Road over Baker Brook, new concrete deck on steel stringers on cement rubble masonry abutments, one 26 foot span.

Maynard—Mill Street over Assabet River, new three span multi-plate arch bridge on two piers and two abutments of cement rubble masonry with concrete caps, two 20 foot spans, one 22 foot span.

Mendon—George Street over Muddy Brook, new standard 14 foot by 6 foot box type bridge, one 10 foot span.

Montague—Central Street over Saw Mill River, new reinforced concrete deck on steel I beams on rubble concrete abutments, one 30 foot span.

Northfield—Warwick Road over Mill Brook, new reinforced concrete deck on steel I beams on rubble concrete abutments, one 25 foot span.

Oxford—Texas Road over French River, new 5 foot by 5 foot box culvert added to increase capacity of adjacent bridge, cement rubble masonry abutments and wing walls, one 5 foot span.

Pepperell—Shirley Street over branch of Nashua River, new twin five foot metal culverts encased in concrete with rubble concrete end walls, two five foot spans.

Petersham—Glen Valley Road over East Branch of Swift River, new rigid frame bridge on one new abutment (West) of cement rubble masonry, existing East abutment raised to grade, one 30 foot span.

Phillipston—Royalston Road over Stream not named, new twin 60" C.C.M. pipe culverts with cement rubble masonry end walls.

Princeton—East Princeton Road, auto Route 62 over East Wachusett Brook, new reinforced concrete deck on concrete gravity abutments, one 15 foot span.

Royalston—N. E. Fitzwilliam Road over Lawrence Brook, new concrete slab deck on steel stringers on cement rubble masonry abutments, one 25 foot span.

Royalston—Winchendon Road over Priest Brook, new reinforced concrete deck on steel stringers on cement rubble masonry abutments, one 30 foot span.

Rutland—Intervale Road over Ware River, new three span bridge of reinforced concrete slabs on steel stringers, two concrete piers, two concrete gravity abutments, two 18.7 foot spans, one 27.5 foot span.

Rutland—Lower Intervale Road over Ware River, new concrete abutments and wooden plank floor on steel stringers, one 50 foot span.

Sandisfield—West New Boston Road over Clam River, new 7" reinforced concrete floor over steel I beams on concrete abutments and wing walls, one 50 foot span.

Southbridge—Cisco Street over Cohasse Brook, new reinforced concrete slab on concrete gravity abutments, one 12 foot span.

Spencer—Cooney Road over Seven Mill Brook, new reinforced concrete deck over steel stringers on concrete gravity abutments, one 20 foot span.

Spencer—Dewey Street over Meadow Brook, new standard 6 foot by 6 foot box culvert, one 6 foot span.

Sterling—Greenland Road over Connolly Brook, new standard 10 foot by 6 foot box type bridge, one 10 foot span.

Sterling—Pratt Junction Road over Wekepeke Brook, new reinforced concrete slab on concrete gravity walls, one 10 foot span.

Sterling—Pratt Junction Road over Wekepeke Brook, new reinforced concrete slab on concrete gravity walls, one 10 foot span.

Townsend—Meadow Road over Willard Brook, new cement rubble masonry pier, wooden stringers and wood decks, existing abutments chinked, one 16.5 foot span, one 20 foot span.

Townsend—Turnpike Road over Squannacook River, one abutment replaced with pier, new abutment built, new 21.5 foot span of reinforced concrete slab on steel girders built, existing slab over steel girders on 36 foot span removed and replaced, existing abutment repaired.

Upton—West Street over West River, new reinforced concrete slab over steel stringers on concrete abutments, one 23 foot slab.

Uxbridge—Elm Street over Rivulet Brook, new reinforced concrete rigid frame box type bridge, two 9 foot spans.

Warren—Bliss Road over Tufts Brook, new reinforced concrete deck over steel stringers on concrete gravity abutments, one 18.5 foot span.

West Boylston—Lee Street over Malden Brook, new twin 54" reinforced concrete pipe culverts with rubble masonry head walls.

Westminster—Whitmanville Bridge on North Common Road over Branch of Whitman River, new reinforced concrete slab deck over steel stringers on gravity abutments, one 27 foot span.

Winchendon—Rindge Road, Auto Route 202, over Millers River, reinforced concrete slab on concrete abutments and concrete center pier, two 16.5 foot spans.

Windsor—Main Street over Housatonic River, new 7" reinforced concrete floor over steel I beams on new West abutment of rubble concrete and widened and repaired East abutment, new wing walls for West abutment, wing walls of East abutment repaired and lengthened, one 19.5 foot span.

60 BRIDGES REPAIRED

Ashburnham—Dunn Road over Branch of Miller River, North abutment built of plain cement concrete, South abutment and footing repaired, one 19.5 foot span.

Ashburnham—Whitney Hill Road over Phillips Brook, new stone West abutment, East stone abutment repaired, new wooden superstructure of 6" x 10" stringers and plank floor, one 18 foot span.

Ashby—Valley Road over Willard Brook, stone abutments and copings repaired, one 18 foot span.

Athol—New Sherborn Road over Oliver Brook, concrete arch and wing walls repaired, one 18 foot span.

Athol—White Pond Road over White's Brook, South abutment of plain concrete replaced, stone masonry wing walls pointed, concrete toe placed under North abutment, one 11 foot span.

Berlin—Town Road over North Brook, northwest wing wall and West section of North abutment removed and replaced with plain concrete, one 17 foot span.

Blackstone—Lincoln Street over Fox Brook, cement rubble masonry West abutment and wing wall rebuilt, sections of stone slab replaced, one 9 foot span.

Blandford—Hiram Blair Road over Pond Brook, stone abutments and wing walls repaired and faced, new wooden plank floor placed on existing steel I beams, one 20 foot span.

Brimfield—Holland Road over Mill Brook, footing of plain concrete placed under East abutment which was also built up to level grade, one 20 foot span.

Charlton—Blood Road over Blood Brook, concrete toe placed on abutments, northeast section of cement rubble masonry arch rebuilt, new footing of plain concrete for this same arch, one 16 foot span.

Charlton—Turner Road over Little River, northeast section of cement rubble masonry arch rebuilt, one 17 foot span.

Cheshire—Windsor Road over South Brook, 7" reinforced concrete floor built over existing steel I beams. West abutment removed and rebuilt of concrete with concrete wing walls, one 19.5 foot span.

Chester—Herring Road over East Branch of Westfield River, North abutment removed and replaced with new concrete abutment and wing walls, one 53.3 foot span.

Dana—Dana Center Road over Fever Brook, plain concrete toe placed on existing abutments, channel cleared and riprapped, one 20.5 foot span.

Dana—New Salem Road over East Branch of Swift River, cement rubble masonry abutments repaired, necessary wood plank replaced, one 31 foot span.

Dracut—Navy Yard Bridge, auto route 113, over Beaver Brook,

spandrel walls reset and faced, masonry arches cradled in cement concrete, new B. M. A. surface, one 25 foot span and one 26 foot span.

Dudley—West Dudley Road over Quinapoxet River, existing southeast wing wall of cement rubble masonry repaired with plain concrete, northwest wing repaired and faced with plain concrete, steel stringers painted, East half of wood planking replaced, one 90 foot span.

East Brookfield—Cove Street over Mill Brook, stone abutments repaired and pointed, wooden truss members repaired, wooden floor beams and planking replaced, one 44.5 foot span.

Easthampton—At Southampton line, Glendale Village Bridge over North Branch of Manhan River, existing footings and abutments faced with plain concrete, wing walls faced and extended, one 46 foot span.

Framingham—Framingham Stone Bridge over Sudbury River. Work on this dry stone masonry arch bridge had just started when work was stopped by W.P.A. as not being flood damage, four 10 foot spans.

Grafton—Depot Street over Blackstone Canal, after work was started on this project, it was found that the damage was beyond scope of proposal. Project submitted as a contract project but was rejected, later revised and submitted as a force account project but was rejected, one 18' span.

Hardwick—Hell Huddle Road over Swift River, new cement rubble masonry abutment (South) new wooden king post truss with wooden floor beams and plank from new abutment to center pier only, center pier repaired, no work done to North span, two 28 foot spans.

Hardwick—Southworth Mills Road over East Branch of Swift River, North abutment and pier rebuilt with dry rubble masonry, timber bent built on site of South abutment, new two span wooden king post truss, stringers, and floor plank, one 16 foot span, one 23 foot span, one 25 foot span.

Hardwick—Taylor Hill Road over Moose Brook, stone abutments repaired and pointed, wooden floor replaced with reinforced concrete slab, one 16 foot span.

Hubbardston—Lombard Road over outlet of Ropers Reservoir, North abutment rebuilt of dry rubble masonry, South abutment faced, new superstructure of wooden stringers and plank, one 15 foot span.

Hubbardston—New Road over outlet of Brigham's Pond, existing abutments faced with concrete, new king post truss with wooden floor beams and floor plank, one 20 foot span.

Hubbardston—Ragged Hill Road over Templeton Brook, existing dry rubble masonry abutments and wing walls repaired, one 10 foot span.

Hudson—Washington Street over Assabet River, dry rubble masonry arch repaired, three 20 foot spans.

Leicester—Auburn Street over Kettle Brook, stone masonry arch and wing walls repaired with cement rubble masonry, one 18.2 foot span.

Leominster—Lancaster Street over Fall Brook, stone masonry abutments pointed and repaired with cement rubble masonry, new reinforced concrete slab to replace stone slab, one 10 foot span.

Lowell—East Merrimac Street, Auto route 38 over Concord River, superstructure of existing structure cleaned and painted, two 60 foot spans.

Lowell—Lawrence Street, Auto route 138 over Concord River, existing abutments patched with cement mortar, surface replaced, six 30 foot spans.

Millbury—Cemetery Road over Blackstone River, new concrete pier to replace damaged South abutment, new South abutment of plain concrete, North abutment faced, new South span (22) of reinforced concrete over steel stringers, one 22 foot span, one 46.5 foot span.

Montague—Chestnut Street over Saw Mill Brook, existing N. E. and S. E. wing walls extended with rubble concrete, existing abutments and S. W. and N. W. wing walls of dry rubble masonry faced with reinforced concrete one foot thick, one 27.5 foot span.

North Adams—Brown Street over Hoosac River, steel sheeting driven along the front of existing South abutment, concrete cap placed between abutment and sheeting, two 44 foot spans.

Oxford—Old Webster Road over Little River, washed out portion of North arch replaced with reinforced concrete, parapet walls replaced with cement rubble masonry, two 13 foot spans.

Palmer—At Brimfield line, Palmer-Brimfield Road over Quaboag River, existing stone masonry piers and abutments pointed with cement mortar, rubble masonry toe built on both abutments, weakened wooden truss members replaced, one 25 foot span, one 27 foot span.

Petersham—Quaker Drive over Moccasin Brook, existing stone abutments repaired and pointed new superstructure of wooden stringers and plank floor, one 12 foot span.

Petersham—Quaker Drive over Swift River, west abutment rebuilt with cement rubble masonry, East abutment pointed, one 26 foot span.

Princeton—Hubbardston Road, auto route 62 over Branch of Ware River, replace washed out gravel and riprap, one 32 foot span.

Royalston—North Fitzwilliam Road over Lawrence Brook, existing South abutment repaired with cement rubble masonry, new North abutment built with cement rubble masonry, new wooden superstructure of wooden stringers and plank floor, one 25 foot span.

Royalston—North Fitzwilliam Road over Lawrence Brook, existing dry rubble abutments repaired and raised with cement rubble masonry, new wooden superstructure of wood stringers and plank floor, one 18 foot span.

Shirley—Longley Road over Mulpus Brook, footings replaced with plain concrete, existing abutments repaired, one 16.5 foot span.

Shirley—At Groton line, Lunenburg Road, Auto Route 25, over Squannacook River, existing abutments and wing walls repaired with reinforced concrete, new reinforced concrete abutment and wing walls added to make additional 22.5 foot span, reinforced concrete slab over new span, new B.M.A. surface and approaches to replace washed out roadway, one 25 foot span, one 22.5 foot span.

Shirley—Townsend Road over Mulpus Brook, washed out footings replaced with plain concrete, existing abutments repaired, one 20 foot span.

Spencer—Lower Wire Village over Turkey Hill Brook, existing abutments repaired with cement rubble masonry, new reinforced concrete slab built encasing existing steel I beams, one 20 foot span.

Sterling—Princeton Road, Auto route 62 over Stillwater River, damaged West abutment replaced with plain concrete abutment and wing walls, one 30 foot span.

Templeton—Depot Street over Otter River, North abutment replaced with plain concrete, foundation of South abutment repaired with plain concrete, damaged pipe culvert on side road replaced with 48" pipe with new ends, one 23 foot span.

Townsend—Ashby Road over Willard Brook, existing abutments repaired with cement rubble masonry and pointed with cement mortar, one 34 foot span.

Upton—Pleasant Street over West River, existing wooden superstructure replaced on two new concrete abutments and two rubble stone masonry piers, one 18 foot span, two 12.3 foot spans.

Upton—Williams Street over West River, northwest portion of arch and northwest wing wall of existing structure repaired and rebuilt with cement rubble masonry, one 20 foot span.

Uxbridge—Hartford Avenue over Blackstone River, existing stone arch bridge abutments faced with plain concrete, replaced portion of bridge floor with reinforced concrete, one 38 foot span.

Ware—East Street, Auto Route 9 over Ware River, North spandrel wall of cut stone arch bridge relaid with cement rubble masonry, washed out surface replaced with B.M.A. surfacing, one 60 foot span.

Warwick—Hockinum Road over Wilson Brook, existing dry rubble masonry abutments pointed and repaired, new reinforced concrete slab deck, one 11.5 foot span.

Wendell—Wendell Depot Road over Osgood Brook, new North abutment built of cement rubble masonry, new reinforced concrete slab deck, one 10 foot span.

Westborough—Fisher Street over Assabet River, existing abutments repaired, new reinforced concrete deck, one 14.2 foot span.

West Brookfield—Foster Hill Road over Tannery Brook, existing West abutment repaired, East abutment rebuilt with cement rubble masonry, new wooden superstructure of king post truss, floor beams, and plank floor, one 20 foot span.

West Brookfield—Long Hill Road over Quaboag River, existing North abutment pointed, South abutment rebuilt with cement rubble masonry, lumber planking replaced where necessary over floor of existing two span steel truss highway bridge, two 53 foot spans.

Winchendon—South Royalston Road over Priest Brook, existing abutments faced with plain concrete, new reinforced concrete deck over new steel stringers, one 17 foot span.

Worcester—Park Avenue, Auto Route 12, over outlet of Coes Reservoir, West side of existing arch culvert rebuilt with cement rubble masonry, concrete fence built along West side, concrete toe built along whole length of inside of arch, one 17 foot span.

EXPENDITURES FOR EMERGENCY PUBLIC WORKS CONSTRUCTION

(Chapter 365 Acts of 1933)

(An Act enabling the Commonwealth to secure certain benefits provided by the National Industrial Recovery Act)

<i>Project</i>	<i>City or Town</i>	<i>Amount</i>
R-1	Lynn-Revere	\$50,000.00
R-16	Revere (North Shore Road)	400.00
R-29-2	Concord By-Pass . . . . .	.40
R-33	Fitchburg-Ashby	100.00
R-51	Braintree-Randolph	31,597.22
R-54	Dennis-Yarmouth	2,200.00
Total		\$84,297.62

BOND ISSUE PROJECTS

(Chapter 464 — Acts of 1935)

(An act providing a Public Works program for the purpose of alleviating existing conditions resulting from unemployment.)

Class 1 Projects — None

Class 2 Projects — Construction of Sidewalks

The expenditures during the year in various counties were:—

Barnstable	\$2,693.24	Hampshire	\$40.93
Berkshire	119.64	Middlesex	9,415.12
Bristol	923.31	Norfolk	710.11
Dukes	6.62	Plymouth	1,762.64
Essex	28,582.50	Suffolk	822.04
Hampden	63.58	Worcester	7,437.72

\$52,577.45

Engineering 31,011.89

Total \$83,589.34

Details of the foregoing expenditures follow:—

Barnstable County—Harwich, \$2,693.24.

Berkshire County—Adams, \$22.00; Becket, \$4.34; Dalton, \$36.08; Lee, \$4.20; Pittsfield, \$53.02.

Bristol County—Acushnet, \$657.41; Attleboro, \$18.43; Easton, \$90.97; Mansfield, \$28.69; No. Attleborough, \$11.25; Norton, \$14.56; Raynham, \$16.68; Somerset, \$47.44; Swansea, \$23.60; Taunton, \$14.28.

Dukes County—Oak Bluffs, \$6.62.

Essex County—Gloucester, \$28,582.50.

Hampden County—Agawam, \$3.67; East Longmeadow, \$1.11; Palmer, \$58.80.

Hampshire County—Easthampton, \$1.73; Huntington, \$39.20.

Middlesex County—Acton, \$35.79; Arlington, \$49.72; Bedford, \$82.76; Billerica, \$658.17; Burlington, \$26.48; Chelmsford, \$2,517.69; Concord, \$18.85; Framingham, \$142.68; Holliston, \$7.00; Hudson, \$42.80; Lexington, \$444.35; Littleton, \$49.56; Lowell, \$456.98; Marlborough, \$617.35; Medford, \$29.05; Natick, \$32.92; North Reading, \$71.40; Reading, \$117.20; Somerville, \$32.52; Sudbury, \$740.71; Tewksbury, \$270.65; Townsend, \$82.75; Tyngsborough, \$694.32; Waltham, \$14.40; Wayland, \$1,323.47; Weston, \$67.50; Wilmington, \$289.60; Winchester, \$7.84; Woburn, \$490.61.

Norfolk County—Avon, \$10.04; Bellingham, \$36.85; Braintree, \$84.47; Canton, \$79.55; Dedham, \$77.63; Milton, \$12.53; Needham, \$9.11; Norwood, \$14.63; Quincy, \$17.50; Randolph, \$60.; Stoughton, \$160.26; Weymouth, \$147.54.

Plymouth County—Abington, \$439.74; Brockton, \$22.19; Hingham, \$1,172.07; Norwell, \$25.19; Rockland, \$28.89; Wareham, \$6.72; West Bridgewater, \$67.84.

Suffolk County—Boston, \$822.04.

Worcester County—Athol, \$130.98; Auburn, \$1,474.82; Barre, \$53.03; Blackstone, \$1,121.00; Brookfield, \$660.27; Dudley, \$879.55; East Brookfield, \$132.50; Fitchburg, \$1.90; Gardner, \$182.70; Grafton, \$172.55; Leicester, \$91.81; Milford, \$4.39; Millbury, \$73.75; Northborough, \$2.25; Northbridge, \$518.66; Paxton, \$7.50; Southborough, \$81.99; Southbridge, \$3.75; Sterling, \$76.24; Sturbridge, \$528.95; Templeton, \$4.90; Uxbridge, \$15.27; Webster, \$990.87; West Brookfield, \$215.88; Winchendon, \$4.70; Worcester, \$7.51.

Class 3 Projects — Highway projects under the Hayden-Cartwright Act

The expenditures during the year in various counties were:—

Barnstable	\$46,662.35	Middlesex	\$3,369.13
Berkshire	133,204.28	Norfolk	13,301.15
Essex	1,271,181.45	Plymouth	12,777.70
Hampden	484,783.31	Worcester	418,629.09
Total		\$2,383,908.46	

Details of the foregoing expenditures follow:—

Barnstable County—Bourne, \$46,662.35.

Berkshire County—Pittsfield, \$133,204.28.

Essex County—Gloucester, \$2,391.68; Lynnfield, \$202,830.00; Saugus, \$1,065,959.77.

Hampden County—Holyoke, \$484,783.31.

Middlesex County—Arlington, \$2,508.99; Belmont, \$556.58; Cambridge, \$303.56.

Norfolk County—Cohasset, \$10,018.28; Foxborough, \$469.12; Norwood, \$702.21; Plainville, \$600.77; Sharon, \$287.57; Walpole, \$528.87; Westwood, \$254.42; Wrentham, \$439.91.

Plymouth County—Hingham, \$9,777.61; Scituate, \$3,000.09.

Worcester County—Millbury, \$259,089.54; Sutton, \$159,539.55.

Class 4 Projects — Grade crossing eliminations, highway projects, maintenance of State highways

The expenditures during the year in the various counties were:—

Barnstable	\$9,039.06	Hampshire	\$170,487.28
Berkshire	45,813.00	Middlesex	132,872.35
Bristol	428,805.68	Norfolk	543,272.38
Essex	1,081,262.08	Plymouth	281,196.72
Franklin	855,685.88	Worcester	749,245.18
Hampden	154,699.08		
Total			\$4,452,378.69
Maintenance			65,866.42
Planning survey			10,297.23
			<hr/>
			\$4,528,542.34

Details of the foregoing expenditures follow:—

Barnstable County—Bourne, \$7,408.77; Falmouth, \$1,630.29;
Berkshire County—Cheshire, \$14,187.23; Lanesborough, \$3,885.68;
Pittsfield, \$531.28; Sheffield, \$27,208.81.
Bristol County—Attleboro, \$97,070.58; Dartmouth, \$127,004.71; Mansfield, \$76,756.45; North Attleborough, \$119,863.93; Westport, \$8,110.01.
Essex County—Gloucester, \$54.60; Lawrence, \$24,184.95; Lynn, \$12,218.61; Lynnfield, \$228,906.62; Methuen, \$19.75; Newbury, \$124,331.24; Peabody, \$486,774.54; Saugus, \$204,763.79; Swampscott, \$7.98.
Franklin County—Deerfield, \$296,230.52; Gill, \$97,411.93; Greenfield, \$503.00; Montague, \$248,511.11; Sunderland, \$213,029.32.
Hampden County—Holyoke, \$69,991.92; Monson, \$84,707.16.
Hampshire County—Amherst, \$20,838.60; Huntington, \$149,648.68.
Middlesex County—Ayer, \$35,878.66; Cambridge, \$1,147.69; Hopkinton, \$22,464.83; Lowell, \$18,051.53; Waltham, \$55,329.64.
Norfolk County—Braintree, \$68,737.99; Canton, \$53,977.22; Cohasset, \$62.30; Foxborough, \$97,839.50; Norwood, \$2,213.38; Plainville, \$70,482.33; Quincy, \$113,292.03; Sharon, \$114,353.53; Westwood, \$7,229.94; Weymouth, \$15,084.16.
Plymouth County—Hingham, \$149.41; Marshfield, \$131,099.88; Middleborough, \$1,100.03; Pembroke, \$130,733.32; West Bridgewater, \$18,114.08.
Worcester County—Ashburnham, \$97,419.60; Clinton, \$73,825.78; Grafton, \$128,395.73; Lunenburg, \$32,634.26; Milford, \$57,236.05; Millbury, \$14,028.25; Shrewsbury, \$1,166.06; Sterling, \$5,382.57; West Boylston, \$2,061.51; Westborough, \$50,901.71; Worcester, \$286,193.66.

Class 5 Projects — Development of Rivers and Harbors

Expenditures during the year 1937 were as follows:

Boston Harbor:

Commonwealth Pier No. 5	\$271,858.53
Dredging	10,803.89
	<hr/>
	\$282,662.42

Outside Boston Harbor:

Lake Anthony, Oak Bluffs	\$1,844.85
Onset Bay, Wareham	264.56
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	2,109.41

Total	<hr/>	\$284,771.83
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RECONSTRUCTION AND REPAIR OF STATE HIGHWAYS DAMAGED BY FLOODS
(Chapter 186, Acts of 1936)

Uncompleted flood repair and betterment projects which were necessitated by the flood of March 1936 were completed early in the year. Most of this work was completed during the previous year.

The State expenditures for work on State highways which was authorized by special act of the Legislature under Chapter 186 of the Acts of 1936 amounted to *\$3,245.77 for force account projects and *\$5,009.88 for Works Progress Administration repair and betterment projects. The Works Progress Administration has expended a total amount of about \$470,000.00 for this work since these projects were started, of which amount about \$16,000.00 was expended during the fiscal year 1937.

EXPENDITURES FOR CONSTRUCTION AND REPAIR OF STATE HIGHWAYS

DAMAGED BY FLOODS

(Chapter 186, Acts of 1936)

The expenditures during 1937 in various Counties were:—

Berkshire	\$177.90	Hampshire	\$110.42
Essex	696.88	Middlesex	3,321.09
Franklin	9,340.35	Worcester	71,014.53
Hampden	2,737.85		
Total			\$87,399.07

Details of the foregoing expenditures follow:—

Berkshire County—Adams, \$177.90.

Essex County—Methuen, \$153.92; Middleton, \$271.48; No. Andover, \$271.48.

Franklin County—Buckland, \$181.21; Charlemont, \$181.20; Erving, \$4,488.97; Gill, \$4,488.97.

Hampden County—Chester, \$31.30; Palmer, \$2,706.55.

Hampshire County—Huntington \$110.42.

Middlesex County—Ashland, \$153.91; Dracut, \$1,095.08; Tewksbury, \$380.35; Tyngsborough, \$1,284.82; Wayland, \$406.93.

Worcester County—Athol, \$36.65; Fitchburg, \$14,268.68; Gardner, \$192.89; Holden, \$59.07; Millbury, \$583.24; Princeton, \$59.44; Sutton, \$25,735.22; Upton, \$264.00; Westminster, \$11.27; Winchendon, \$29,804.12.

MAINTENANCE AND REPAIR OF STATE HIGHWAYS

(Section 13, Chapter 81, General Laws)

The expenditures during the year in various counties were:—

Barnstable	\$94,749.88	Hampshire	\$89,203.99
Berkshire	166,734.75	Middlesex	389,084.08
Bristol	156,207.83	Nantucket	297.64
Dukes	13,389.82	Norfolk	368,506.47
Essex	294,103.79	Plymouth	111,868.57
Franklin	79,372.18	Suffolk	75,255.81
Hampden	73,224.83	Worcester	281,329.35
Total			\$2,193,328.99

Details of the foregoing expenditures follow:—

Barnstable—Barnstable, \$27,018.52; Bourne, \$13,741.46; Brewster, \$1,965.35; Chatham, \$2,726.92; Dennis, \$4,038.55; Eastham, \$1,499.95; Falmouth, \$10,894.80; Harwich, \$3,535.75; Mashpee, \$3,864.01; Orleans, \$3,360.35; Provincetown, \$3,129.44; Sandwich, \$5,554.43; Truro, \$5,944.40; Wellfleet, \$3,002.23; Yarmouth, \$4,473.72.

Berkshire County—Adams, \$1,490.90; Becket, \$11,031.61; Cheshire, \$4,589.17; Clarksburg, \$6,512.91; Dalton, \$8,471.69; Egremont, \$2,621.47; Florida, \$8,530.71; Gt. Barrington, \$13,449.74; Hancock, \$2,227.87; Hinsdale, \$6,709.33; Lanesborough, \$3,858.50; Lee, \$11,107.47; Lenox, \$4,604.12; New Ashford, \$1,434.68; New Marlborough, \$28.49; No. Adams, \$6,394.95; Otis, \$14,442.32; Pittsfield, \$7,294.31; Richmond,

* NOTE: These amounts are for maintenance projects only and do not include any expenditures for bridges, etc.

\$2,356.18; Sandisfield, \$1,645.79; Savoy, \$6,367.17; Sheffield, \$11,485.35; Stockbridge, \$2,808.16; Washington, \$3,271.56; West Stockbridge, \$418.98; Williamstown, \$20,275.38; Windsor, \$3,305.94.

Bristol County—Acushnet, \$3,267.92; Attleboro, \$3,903.09; Berkley, \$1,015.45; Dartmouth, \$6,281.57; Dighton, \$8,794.62; Easton, \$9,647.38; Fairhaven, \$7,126.21; Fall River, \$7.39; Freetown, \$3,612.43; Mansfield, \$3,833.26; Norton, \$8,367.64; No. Attleborough, \$3,304.78; Raynham, \$11,009.32; Rehoboth, \$4,959.88; Seekonk, \$8,534.57; Somerset, \$34,057.77; Swansea, \$17,599.10; Taunton, \$12,597.19; Westport, \$8,288.26.

Dukes County—Chilmark, \$5,135.66; Edgartown, \$2,397.01; Gay Head, \$1,816.67; Oak Bluffs, \$630.61; Tisbury, \$755.27; West Tisbury, \$2,654.60.

Essex County—Amesbury, \$5,566.29; Andover, \$21,915.90; Beverly, \$12,428.52; Danvers, \$7,975.48; Essex, \$3,075.24; Gloucester, \$29,939.30; Groveland, \$2,811.56; Hamilton, \$6,238.96; Haverhill, \$7,074.53; Ipswich, \$12,623.16; Lawrence, \$2,798.21; Lynn, \$5,860.20; Lynnfield, \$2,860.67; Merrimac, \$2,602.40; Methuen, \$17,072.52; Middleton, \$22,205.06; Newbury, \$11,130.75; Newburyport, \$7,740.64; No. Andover, \$23,310.52; Peabody, \$5,794.47; Rockport, \$1,087.17; Rowley, \$7,847.07; Salem, \$19,130.61; Salisbury, \$13,042.51; Saugus, \$15,897.89; Swampscott, \$10,603.67; Topsfield, \$7,213; Wenham, \$3,239.92; West Newbury, \$5,017.57.

Franklin County—Ashfield, \$3,177.28; Bernardston, \$3,207.80; Buckland, \$1,897.35; Charlemont, \$7,989.95; Colrain, \$1,955.11; Conway, \$1,195.67; Deerfield, \$6,486.05; Erving, \$5,426.80; Gill, \$1,798.84; Greenfield, \$9,238.08; Montague, \$5,062.97; New Salem, \$2,730.76; Northfield, \$8,742.98; Orange, \$3,027.45; Shelburne, \$5,848.20; Shutesbury, \$2,615.32; Sunderland, \$4,773.95; Whately, \$4,377.62.

Hampden County—Agawam, \$9,590.09; Blandford, \$2,762.52; Brimfield, \$6,116.51; Chester, \$8,020.59; Chicopee, \$8,787.42; East Longmeadow, \$1,428.23; Hampden, \$213.49; Holland, \$116.60; Holyoke, \$854.74; Monson, \$2,221.80; Palmer, \$7,373.82; Russell, \$5,324.01; Southwick, \$3,159.77; Tolland, \$157.35; Wales, \$4,998.31; W. Springfield, \$2,871.15; Westfield, \$5,022.14; Wilbraham, \$4,206.30.

Hampshire County—Amherst, \$5,741.31; Belchertown, \$5,969.54; Cummington, \$7,393.03; Easthampton, \$4,645.39; Goshen, \$6,599.84; Granby, \$4,686.05; Hadley, \$4,501.93; Hatfield, \$2,069.28; Huntington, \$9,354.01; Enfield, \$35.88; Northampton, \$7,808.24; Pelham, \$1,678.31; Southampton, \$7,032.18; So. Hadley, \$8,446.55; Ware, \$8,304.67; Williamsburg, \$3,701.33; Worthington, \$1,236.45.

Middlesex County—Acton, \$7,752.69; Arlington, \$16,279.96; Ashby, \$8,794.26; Ashland, \$4,980.17; Ayer, \$2,623.47; Bedford, \$1,408.25; Belmont, \$3,620.90; Billerica, \$10,188.15; Boxborough, \$4,040.68; Burlington, \$3,627.88; Cambridge, \$3,350.07; Carlisle, \$8.79; Chelmsford, \$17,561.69; Concord, \$14,648.63; Dracut, \$5,273.45; Framingham, \$24,198.65; Groton, \$1,981.39; Holliston, \$6,052.84; Hudson, \$6,631.82; Lexington, \$24,233.59; Lincoln, \$11,301.31; Littleton, \$8,636.28; Lowell, \$3,944.68; Malden, \$81.44; Marlborough, \$10,898.63; Medford, \$4,949.47; Melrose, \$907.02; Natick, \$16,219.32; Newton, \$19,191.06; No. Reading, \$6,453.68; Pepperell, \$1,417.83; Reading, \$18,829.41; Shirley, \$3,370.92; Somerville, \$4,430.96; Stoneham, \$3,610.57; Sudbury, \$10,504.71; Tewksbury, \$15,470.54; Townsend, \$7,718.68; Tyngsborough, \$11,764.54; Waltham, \$3,031.62; Watertown, \$1,881.04; Wayland, \$17,320.47; Westford, \$6,119.45; Weston, \$10,669.19; Wilmington, \$6,281.17; Winchester, \$2,520.83; Woburn, \$14,301.93.

Nantucket County—Nantucket, \$297.64.

Norfolk County—Avon, \$3,126.15; Bellingham, \$3,401.83; Braintree, \$28,065.01; Brookline, \$12,292.43; Canton, \$39,691.31; Cohasset, \$2,835.62; Dedham, \$29,693.15; Dover, \$2,902.19; Foxborough, \$8,929.89; Franklin, \$1,584.84; Holbrook, \$5,970.11; Milton, \$30,008.12; Needham, \$13,262.53; Norfolk, \$291.45; Norwood, \$24,228.78; Plainville, \$4,181.96;

Quincy, \$11,340.63; Randolph, \$12,232.99; Sharon, \$4,867.28; Stoughton, \$11,734.88; Walpole, \$18,734.67; Wellesley, \$22,618.89; Westwood, \$21,629.99; Weymouth, \$42,086.87; Wrentham, \$12,794.90.

Plymouth County—Abington \$8,162.84; Bridgewater, \$3,416.31; Brockton, \$6,928.78; Duxbury, \$3,531.78; E. Bridgewater, \$2,826.34; Hanover, \$2,898.69; Hingham, \$8,735.06; Hull, \$543.68; Kingston, \$3,752.11; Lakeville, \$7,895.99; Marion, \$2,599.97; Marshfield, \$5,562.17; Mattapoisett, \$3,812.71; Middleborough, \$10,105.17; Norwell, \$994.42; Pembroke, \$1,763.55; Plymouth, \$13,220.60; Plympton, \$23.21; Rochester, \$1,817.48; Rockland, \$4,439.52; Scituate, \$5,144.11; Wareham, \$8,204.81; W. Bridgewater, \$2,034.99; Whitman, \$3,454.28.

Suffolk County—Boston, \$22,941.65; Chelsea, \$1,775.02; Revere, \$50,539.14.

Worcester County—Ashburnham, \$4,011.51; Athol, \$3,791.26; Auburn, \$10,276.64; Barre, \$6,028.08; Blackstone, \$6,608.44; Boylston, \$75.53; Brookfield, \$2,169.95; Charlton, \$6,070.15; Douglas, \$1,044.86; Dudley, \$4,428.83; E. Brookfield, \$5,570.28; Fitchburg, \$1,343.83; Gardner, \$4,934.43; Grafton, \$8,864.29; Hardwick, \$326.93; Harvard, \$3,301.53; Holden, \$6,514.56; Hopedale, \$1,566.17; Hubbardston, \$14.06; Lancaster, \$3,429.36; Leicester, \$3,070.44; Leominster, \$1,279.17; Lunenburg, \$7,203.47; Mendon, \$1,236.64; Milford, \$4,014.73; Millbury, \$17,795.40; Millville, \$591.83; New Braintree, \$299.75; No. Brookfield, \$3,859.08; Northborough, \$5,447.00; Northbridge, \$4,891.56; Oakham, \$10,502.54; Oxford, \$3,749.70; Paxton, \$2,996.28; Petersham, \$6,768.15; Phillipston, \$1,178.74; Princeton, \$2,411.18; Royalston, \$3.16; Rutland, \$18,748.94; Shrewsbury, \$9,613.10; Southboro, \$6,618.02; Southbridge, \$1,466.95; Spencer, \$4,034.91; Sterling, \$12,185.92; Sturbridge, \$8,566.62; Sutton, \$13,326.26; Templeton, \$5,140.44; Upton, \$2,228.51; Uxbridge, \$2,547.57; Warren, \$5,209.42; Webster, \$3,682.97; West Boylston, \$3,494.43; West Brookfield, \$5,329.07; Westborough, \$8,074.33; Westminster, \$4,953.55; Winchendon, \$3,152.75; Worcester, \$6,296.08.

Miscellaneous expenditures for maintenance of highways are as follows:—

Snow Removal

Equipment and Repairs

Repairs and parts	\$102,826.38
Labor	49,316.26
New equipment	52,478.25

\$204,620.89

Plowing and Sanding

Materials (sand, gas, oil, calcium chloride)	183,324.89
Labor	218,428.02
Truck hire	92,649.12

494,402.03

\$699,022.92

Traffic

Route markers	15,916.84
Direction signs	14,582.63
Warning signs	32,386.00
Regulatory signs	6,947.58
Control signals	45,702.53
Surface markings	26,729.89
Curb markings	190.87
Traffic survey	6,503.66
Salaries	44,031.49
Chap. 357	358.58
Traffic census	5,534.45
Art project	56.73

P.D. 54		51
W. P. A.	17.40	
Tercentenary signs	284.96	
		199,243.61

Bridges

Somerset Bridge	15,550.42	
Newburyport Bridge	7,399.23	
New Bedford-Fairhaven Bridge	20,182.01	
Quincy-Weymouth Bridge	18,291.86	
		61,423.52
Geodetic survey		3,124.45
Detour bulletins		1,827.87
Inspection of bituminous concrete pavement (Technical services)		1,690.38
Tractor repairs		7,891.03
Total miscellaneous expenditures		\$974,223.78

Summary of Maintenance Expenditures

Maintenance and repair of State Highways	\$2,193,328.99
Miscellaneous expenditures	974,223.78
Total	\$3,167,552.77

ORDINARY AND SPECIAL MAINTENANCE

The work of repairing road surfaces, maintaining shoulders and slopes, cleaning drainage ditches and conduits, and miscellaneous work on the right-of-way including repairing fences, trimming trees, clearing roadsides and improvement of the appearance of State highways was performed under the ordinary maintenance allotment. Cost of this work compares favorably with that of other years.

Betterment work by maintenance forces was restricted this year on account of limited funds, so that it was possible to do only a few of the more essential projects. The major portion of funds spent for betterments was for widenings on roads too narrow to carry the traffic, and at locations where a serious condition was caused by the washing out of gravel between the edge of the old surface and the recently installed sidewalk curbing. Resurfacing was done where the old surface had become warped and uneven due to settlement in swampy areas. The total length widened was 1.6 miles and the length resurfaced was 0.5 miles.

Modern guard rail was installed on 7.7 miles of State highway, consisting mostly of replacing old wooden guard rail.

Other betterments included 0.3 miles of shoulder hardenings, improvement of drainage by the installation of culverts, ditches, manholes, catch-basins, etc. and miscellaneous projects.

REMOVAL OF SNOW AND ICE FROM STATE HIGHWAYS AND CERTAIN TOWN ROADS

The program of snow and ice removal was continued under authority of Section 19, Chapter 81, General Laws (Ter. Ed.), amended by Chapter 187 of the Acts of 1933, governing the removal of snow and ice on State highways, and under Chapter 84, Section 11 of the General Laws (Ter. Ed.), governing State cooperation on the plowing of town highways.

This program included a total of 1967.21 miles, of which 1763.42 miles were State highways and 203.79 miles were town roads plowed on a cooperative basis.

Much of the quipment used is owned and operated by the Department, supplemented by hired trucks and equipment owned by cities and towns.

The amount of snow during the winter was less than average, which reduced the cost of plowing, but much sanding was required due to ice storms and freezing rain. Sanding was required on 54 days and frequently it was necessary to keep men and equipment working 24 hours.

An amount of \$699,022.92 was expended by the Department during the fiscal year for plowing and sanding, erection of snow fence, cleaning of waterways, maintenance and repair of equipment, and the purchase of materials, such as sand, calcium chlorde and sodium chloride.

REPAIRING DEPARTMENT EQUIPMENT

The following contracts were entered into for repairing equipment.

Boston—September 29, 1937, contract made with J. J. Callahan of Boston, for repairing Department snow removal units and machinery. The proposal amounted to \$68,750. Work about one-fifth completed. Expenditure during 1937, \$13,278.04.

Boston—November 30, 1937, contract made with J. E. Black of Dedham, for repairing Department tractors. The proposal amounted to \$8,590. There were no expenditures during 1937.

BRIDGE MAINTENANCE AND OPERATION

Draw Bridge over the Merrimac River Between Newburyport and Salisbury

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 716, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, of operating the draw and of maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending November 30, 1937, was 201. In 1936 the number of such openings was 168; in 1935 the number was 178; in 1934 the number was 110; in 1933 the number was 153; and in 1932 the number was 220.

The total expenditure during the year was \$7,399.23.

The total expenditure from 1912 to November 30, 1937, inclusive, was \$211,621.44.

Draw Bridge over Taunton River Between Fall River and Somerset

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 717, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, and for operating the draw and maintaining the structure, shall be paid by the Commonwealth.

The number of draw openings during the year ending November 30, 1937, was 1,385. In 1936 the number of such openings was 1,591; in 1935 the number was 1,492; in 1934 the number was 2,118; in 1933 the number was 1,602; and in 1932 the number was 1,662.

The total expenditure during the year was \$15,550.42.

The total expenditure from 1912 to November 30, 1937, inclusive, was \$436,202.49.

Draw Bridge over Acushnet River between City of New Bedford and the Town of Fairhaven

This bridge, which was placed in charge of the Department of Public Works and made a State highway by the provisions of Chapter 406, Acts of 1930, which also provided that the expense of keeping the bridge in good repair for travel, operating the draw and of maintaining the structure, shall be paid by the Commonwealth, was taken over by the Department on June 27, 1930.

The number of draw openings while in charge of the Department beginning June 27, 1930, and ending November 30, 1932, was 1,069. In 1933, the number of such openings was 1,867; in 1934 the number was 1,434; in 1935 the number was 1,318; in 1936 the number was 1,434; in 1935 the number was 1,318; in 1936 the number was 1,381; and in 1937 the number was 1,064.

The total expenditure during the year was \$20,182.01.

The total expenditure while in charge of the Department has been \$159,612.30.

*Draw Bridge over Weymouth Fore River between the City of
Quincy and the Town of Weymouth*

The jurisdiction of the Department of Public Works over this bridge is provided for by Chapter 348, Acts of 1933.

The new drawbridge was put in service May 23, 1936. From May 23, 1936, to November 30, 1936, the number of openings was 479.

The total expenditure during the year was \$18,291.86.

The total expenditure since construction for the maintenance and operation of both the temporary and new bridges was \$31,779.26.

ROADSIDE MAINTENANCE AND DEVELOPMENT

Roadside maintenance has been one of the duties of this Department for many years. However, its scope has broadened so that it now is a part of both construction and maintenance of highways.

During the year supervision and inspection was given to work totaling approximately \$1,800,000 in value in addition to the planting of 803 trees and 2444 shrubs and vines.

As in the past the removal and trimming of trees, shrubs and undesirable growth has been carried on under the supervision of competent experienced employees. Much trimming has been done by public utilities companies for new and old pole lines. Inspectors have been employed to inspect this work, and prevent too extensive cutting of trees.

There were during the year 1937, 150 individual W.P.A. Roadside Beautification projects in operation, mostly in the eastern part of the State. Each was carried on under the direction of a department engineer. Particularly, attention was given to work along the Concord Turnpike, the Providence Turnpike, and the Worcester-Fitchburg road. Under the W.P.A. two projects for prevention of soil erosion were completed. The first project on Route 20 in Palmer was completed in June. This slope had caused considerable trouble when masses of earth and rock slipped down the slope, sometimes covering the road. The condition was corrected at a cost of about \$5,000.

The other slope on Route 1 in Wrentham was completed in September. This slope also caused difficulty each spring, but the trouble was corrected by lowering the ground water level and sodding the slope surface. Work was completed at a cost of \$2,000 to the Department.

By use of Federal money secured through the Hayden-Cartwright Act and WPGH funds, plans and estimates were prepared for nine roadside improvement projects. The following table shows the town, route, and cost of each:

Town	Route	Cost
Middleborough	28	\$ 924.30
Cheshire-Lanesborough	8	19,885.50
Sterling	12	5,668.34
Worcester-West Boylston	12	3,289.91
Foxborough, Norwood, Sharon, Walpole, Wrentham, Plainville, Westwood, Dedham	1	3,688.00
Hingham-Cohasset-Scituate	3-A	17,978.55
Gloucester	121	2,285.01
Arlington-Belmont-Cambridge	2	3,983.68
Hingham	3	6,520.34
Total		\$64,223.63

ROADSIDE IMPROVEMENT

The Department entered into the following contracts for roadside improvement:—

Arlington-Belmont-Cambridge

Dec. 23, 1936, contract made with William P. Herlihy, of Cambridge, for furnishing and planting trees, shrubs, vines and plants complete with necessary fertilizer, tree stakes where necessary along Automobile Route 2, beginning in Cambridge at the traffic circle on the Alewife Brook Parkway and continuing through the towns of Arlington and Belmont (including the grade separation at Pleasant Street) to the Lexington town line. The proposal amounted to \$3,983.68. Work completed May 25, 1937. Expenditure during 1937, \$3,369.13.

Gloucester

March 24, 1937, contract made with Louis A. Reardon, of North Abington, for furnishing and planting trees, shrubs, vines and plants, complete with necessary fertilizer and tree stakes where necessary, at designated locations along Automobile Route 121, beginning at the Essex Town Line and extending to about the intersection with Bond Street. The proposal amounted \$2,285.01. Work completed May 15, 1937. Expenditure during 1937, \$2,285.01.

Middleborough

March 24, 1937, contract made with Littlefield Wyman Nurseries, of North Abington, for furnishing and planting trees, shrubs and plants complete with necessary fertilizer and tree stakes where necessary, at designated locations along Automobile Route 28 beginning at the Bridgewater Town Line and continuing along Route 28, including the traffic circle at the intersection with Route 101, to the Rochester Town Line. The proposal amounted to \$924.30. Work completed May 18, 1937. Expenditure during 1937, \$924.30.

Hingham-Cohasset-Scituate

May 10, 1937, contract made with Tree-Land Inc., of Cambridge, for furnishing and planting trees, shrubs and vines, complete with necessary fertilizer and tree stakes where necessary, at designated locations along Automobile Route 3-A, beginning at the traffic circle at the junction of Summer Street and extending thence through Hingham, Cohasset and Scituate for about 8.9 miles to the junction with the old State Highway. The proposal amounted to \$17,978.55. Work about five-sixths completed. Expenditure during 1937, \$14,920.00.

Dedham-Foxborough-Norwood,—etc.

May 19, 1937, contract made with Louis A. Byrne Nurseries, Inc., of Dennisport, for furnishing and planting trees, complete with necessary fertilizer and tree stakes where necessary, at designated locations along Automobile Route 1, beginning at the North Attleborough Town Line and extending thence along Route 1 through the towns of Plainville, Wrentham, Foxborough, Sharon, Walpole, Norwood, Westwood and for about 5,400 feet into Dedham. The proposal amounted to \$3,688.00. Work completed Nov. 10, 1937. Expenditure during 1937, \$3,134.80.

Cheshire-Lanesborough

June 8, 1937, contract made with Louis A. Reardon, of North Abington, for furnishing and planting trees, shrubs and vines, complete with necessary fertilizer and tree stakes where necessary, at designated locations along Automobile Route 8, beginning at the Pittsfield City Line and extending thence along Route 8 through the towns of Lanesborough and Cheshire to the Adams Town Line. The proposal amounted to \$19,885.50. Work about nine-tenths completed. Expenditure during 1937, \$17,044.34.

Hingham

June 30, 1937, contract made with Martin J. Kelly, of Boston, for rough grading, rounding and sodding highway slopes and doing miscellaneous incidental work, at designated locations along Automobile Route 3, beginning at about the Weymouth Town Line and extending thence along Route 3 to about the Norwell Town Line. The proposal amounted to \$6,520.34. Work completed August 21, 1937. Expenditure during 1937, \$7,084.88.

Worcester-W. Boylston

July 21, 1937, contract made with William P. Herlihy, of Cambridge, for rough grading, rounding and sodding highway slopes and doing miscellaneous work, at designated locations along Automobile Route 12, beginning at about the trestle crossing over the Boston & Maine Railroad at Malden Street in Worcester and extending thence along Route 12 in Worcester and in West Boylston to about the intersection of Sterling Road with Lancaster Street. The proposal amounted to \$3,289.91. Work completed September 18, 1937. Expenditure during 1937, \$3,183.95.

Sterling

Aug. 18, 1937, contract made with Martin J. Kelly, of Boston, for rough grading, rounding and sodding highway slopes and doing miscellaneous incidental work, at designated locations along Automobile Route 12, beginning at about the intersection of Route 12 (Main Street) with Princeton Road and extending thence along Automobile Route 12 in Sterling to about at Pratts Junction. The proposal amounted to \$5,668.34. Work completed Oct. 15, 1937. Expenditure during 1937, \$5,075.77.

SIDEWALKS ALONG STATE HIGHWAYS

State Bond Issue and Federal W.P.A. Allotments

Sidewalk construction continued during the fiscal year 1937 with funds from the Bond Issue of 1935, Chapter 464, Section 2, and an allotment from the Works Progress Administration. This work consisted of placing surfacing on graded areas, completing installation of curbing, drainage, and guard rail, and fine grading, loaming and seeding slopes and grass plots.

A total of 207 projects were in operation during the fiscal year and 276 miles of sidewalks were completed. An amount of \$83,589.34 was expended from the Bond Issue and \$1,588,855.54 was expended from Federal funds of the Works Progress Administration, a total of \$1,672,444.88.

The number of pedestrian accidents on state highways where sidewalks have been constructed has been materially reduced. A survey discloses that there was a reduction of 30% in both injuries and fatalities in 1937 as compared to 1934, which marked the beginning of the sidewalk construction program.

FARM TO MARKET PROJECTS

Improvement of "Farm to Market" roads, which was started by the Department of Public Works in the fall of 1935, in co-operation with the cities and towns and the Works Progress Administration, continued during the fiscal year 1937, although there were fewer projects operating under sponsorship of the Department and an increase in responsibility on the cities and towns.

Late in the Spring of 1937, the Works Progress Administration requested larger contributions from local authorities making it necessary to revise and resubmit the projects.

The Department agreed to act as co-sponsor pending approval of these revised projects in order to eliminate the possibility of protracted curtailments. This agreement allowed the projects to continue operation, with expenditures charged to statewide allotments granted for projects sponsored by the Department.

During the past year there were 332 miles of "Farm to Market" roads improved, an expenditure of \$2,000,228.80 divided as follows: Works Progress Administration \$1,563,332.12; Cities and Towns \$420,066.47; State \$16,830.21. The majority of these improvements consisted of correcting alignment, widening and providing better visibility at curves and intersections, installation of drainage, excavation of unsuitable material and replacement with a gravel sub-base and wearing surface.

This work has materially reduced welfare costs in many towns and should be considered of substantial value in addition to improvement of roads. The towns realized this and were therefore willing to make larger contributions for equipment and material when so requested by the Works Progress Administration.

WIDENING AND RESURFACING PROJECTS ON STATE HIGHWAYS

Projects started the past year under the Widening and Resurfacing Program of the Works Progress Administration continued until the projects were completed or to a point where they could be safely suspended. Due to a curtailment of the Works Progress Administration funds these projects were then closed.

In September 1936, Widening and Resurfacing Project Proposals, amounting to \$10,512,870, were submitted to the Works Progress Administration for approval on the basis of 100% Federal contribution, the only state expenditures being for engineering and supervision. Approval was received with the restriction that 50% of the total asked for on each project could be spent. Many of these projects were not permitted to start because of completed labor quotas in districts where they were located.

Projects were started under approved allotments, totalling \$2,883,303, in the fall of 1936 and continued until winter weather. Because of reduced quotas in men and further curtailment of Federal funds, few projects were started again in the spring and these were all closed by June 30, 1937.

Total funds expended by the Works Progress Administration for this work amounted to \$196,650, of which \$161,570 was spent the current year.

Some of the projects started under this program were completed later with Ordinary Maintenance funds and others will be considered for completion at an early date, probably as Reconstruction projects.

Reconstruction of 4.0 miles of road was started and partly completed under this program. Widening projects were completed on 6.7 miles of highways. 1822 cubic yards of rip-rap was placed along the banks of the Merrimack River in Dracut.

MATERIALS TESTING LABORATORY

The Materials Testing Laboratory occupies the east end of the basement in the Public Works Department Building, Boston. Established in 1921, it has grown in personnel and equipment to the present up to date plant for testing all materials proposed for use in construction and maintenance of highways and bridges.

The Laboratory is equipped with standard apparatus for testing structural materials. During the past year, over seven thousand analyses were made of one hundred and twelve different types of highway construction and maintenance materials. Many analyses were made in connection with some fifteen research and special investigation projects conducted by the Laboratory.

Laboratory procedure is supplemented by work of a field organization under direction of the several District Highway Engineers. In each of the seven highway districts, is a Materials Engineer equipped with a portable field laboratory. The Materials Engineer works in cooperation with the Laboratory sampling and testing materials, and in his field laboratory, he tests and keeps a check on sand and stone aggregate used in cement concrete mixes for masonry and road surfaces.

The Laboratory takes part in cooperative research performed by other materials testing laboratories. In this way, results of work of all participating laboratories is available.

TRAFFIC

Traffic Signs, Lights, Markings, Signal Systems and Regulations

Under the provisions of chapters 85 and 89, General Laws, as amended, certain duties are placed upon the Department in order to secure uniformity in highway traffic signs, signals, markings, devices and regulations.

The Department is required to erect on all numbered routes such signs, etc., as it may deem necessary for promoting the public safety and convenience.

Traffic Signs, Signals, etc., Erected by Department

Accordingly, the Department has, during the past year, erected those signs, etc.

	1937
Traffic signals	4
Traffic beacons	14
Traffic signs	9,346
Traffic markings (in miles)	783

The erection or designation of the foregoing was based upon accident analyses, traffic counts and speed checks. It is only through a close study of these that the need for warning or control can be accurately gauged.

Directional Signs and Route Markers Erected by Department

Still other signs have been erected under the provisions of the first-named chapter. These are known as directional signs. Posted at or within intersections, these serve to direct the motorist to adjacent, contiguous and even remote towns.

Travel has been further facilitated by the opening of new routes and the marking of these with button signs which notify the motorist upon which route he is traveling.

The fabricating and painting of these signs are done at the Department's traffic shop.

Traffic Control Signals, Signs and Regulations Approved by Department

The provisions of the several chapters already referred to also make the validity of regulations made, or signs, etc., erected by cities and towns upon ways within their control, dependent upon the written approval of the Department of Public Works.

As a means of aiding the municipalities in this respect, the Department assigns its engineers to make studies, and to give advice to those cities and towns which desire to control vehicular traffic through the medium of regulations and signs.

This resulted during the past year in the Department's approving the following traffic control features:

	1937
Traffic signals	50
Traffic beacons	14
Traffic Sign Permits	50
Traffic Marking Permits	13
Traffic rules and regulations	181
Isolated stop signs	390
Safety zones	11

FEDERAL AID IN CONSTRUCTING HIGHWAYS

Statements as to the Acts of Congress and of the Massachusetts Legislature in respect to cooperation between the United States and the State of Massachusetts in the construction of highways, including the Federal Highway Act, approved Nov. 9, 1921, may be found in the annual reports of the Department of Public Works for the years 1920 to date.

A detailed statement of the Federal Aid Allotments and projects for Massachusetts appears in the Department Report for the fiscal year 1933. Additions and alterations for the fiscal years 1934, 1935, 1936 and 1937 and a summary of the allotments appears as follows:

Regular Federal Aid from June 30, 1916 to June 30, 1933 .	\$18,523,440
1931 Federal Emergency Advance Funds	1,141,460
Federal Emergency Relief and Construction Act of 1932	1,716,612
1934 National Recovery Funds (Appropriated under the National Industrial Recovery Act, approved June 16, 1933)	6,597,100
1935 National Recovery Funds (Appropriated under the Hayden-Cartwright Act approved June 18, 1934)	3,350,474
1936 Regular Federal Aid Funds (Authorized under the Hayden-Cartwright Act Approved June 18, 1934)	1,741,877
1937 Regular Federal Aid Funds (Authorized under the Hayden-Cartwright Act Approved June 18, 1934)	1,743,487
Works Program Funds—Highways	3,262,885
Works Program Funds—Grade Crossings (Appropriated under the Emergency Relief Appropriation Act of 1935)	4,210,833
WPA Funds Used in Conjunction with Works Program Funds (Appropriated under the Emergency Relief Appropriation Act of 1935—Transferred from WPA to the Bureau of Public Roads for Federal Aid Purposes)	958,133
Funds for Flood Replacement Projects (Authorized under the Emergency Relief Appropriation Act of 1936, ap- proved June 22, 1936)	1,533,850
1938 Regular Federal Aid Funds (Authorized under the Hayden-Cartwright Act approved June 16, 1936)	
Regular Federal Aid	\$1,769,936
Secondary or Feeder Roads	353,987
Grade Crossings	1,047,500
	<u>3,171,423</u>

Total Federal Funds Authorized to Nov. 30, 1937 . \$47,951,574

There were 64 projects prepared in addition to those shown on the Annual Report of the Department of Public Works for 1936. The length of Federal Aid highway and bridge projects in this State from the commencement of work of this type to November 30, 1937 inclusive is 1,137,389 miles, an increase of 10.018 miles over 1936.

In addition to these highway and bridge projects there were 21 road-side improvement projects under 8 contracts totaling about 61.846 miles. These were all on old Federal Aid projects.

The total length of Federal Aid projects (1,137.389 miles) divided according to the various counties is as follows:

Barnstable	108.387	Hampshire	56.148
Berkshire	136.036	Middlesex	109.442
Bristol	92.254	Norfolk	92.997
Dukes	3.117	Plymouth	114.464
Essex	97.786	Suffolk	5.839
Franklin	57.596	Worcester	191.355
Hampden	71.968		
Total			<u>1,137.389</u>
			Miles

STATEMENT OF FEDERAL AID FUNDS

1931 Federal Emergency Advance Funds	\$1,141,460.00
(See Department Report for 1933)	
1932 Federal Emergency Relief Funds	1,716,612.00
(See Department Report for 1935)	
1934 National Recovery Funds	6,597,100.00

Allotted as follows:

Amesbury	NRH 243-A . . .	\$21,836.51
Arlington-Belmont- Cambridge	NRM 242-A . . .	617,355.22
Ashby-Townsend	NRH 188-F . . .	117,531.69
Auburn	NRM 130-B . . .	103,571.29
Boston	NRM 244-A . . .	37,926.57
Brookline-Newton	NRM 235-B . . .	210,478.94
Burlington	NRH 78	22,671.06
Charlton	NRH 184-A . . .	34,775.70
Charlton-Oxford	NRH 184-C . . .	34,347.72
Chester	NRH 138-B . . .	46,792.64
Conway-Deerfield	NRS 246	234,689.75
Easton	NRH 89-A	38,908.87
Easton	NRH 89-C	40,017.36
East Boston-Revere	NRM 241-A . . .	698,939.51
Fairhaven	NRH 143-B . . .	64,430.41
Huntington	NRS 245-A . . .	141,633.69
Lanesborough	NRH 173-C . . .	9,983.98
Mattapoisett	NRH 189-E . . .	80,642.31
Newbury	NRH 199-C . . .	46,975.44
Newburyport	NRM 126-A . . .	547,399.77
North Adams	NRM 248-A . . .	176,360.52
Otis	NRS 247	106,186.86
Pittsfield	NRM 173-D . . .	30,896.49
Quincy-Weymouth	NRM 170-C . . .	1,976,400.49
Revere	NRM 241-B . . .	248,063.57
Scituate-Marshfield	NRH 174-B . . .	146,402.02
Springfield	NRM 131-C . . .	207,487.36
Sterling-West Boylston	NRH 172-B . . .	124,037.32
Stoughton	NRH 56	117,194.77
Templeton	NRH 194-B . . .	41,226.36
Wareham	NRH 189-F . . .	32,224.03
West Boylston	NRH 240-B . . .	7,263.08
Winchester	NRH 57 (2) . . .	12,746.42
Winchester	NRH 57 (B) . . .	18,170.72
Woburn	NRM 57 (1) . . .	14,140.19
Worcester	NRM 249	102,389.39

Total for Roadway and Bridge Projects	6,512,098.02
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Landscape Projects Financed from these Funds

(See 1935 Report)

Amount Allotted	\$39,752.76
Amount Reverted	1,073.14

Net Amount	38,679.62
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Total Amount Under Agreement	\$6,550,777.64
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Total Allotment	6,597,100.00
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Agreement Pending	\$46,322.36
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The above projects are all completed and final payment received except Quincy-Weymouth NRM 170-C. There is a balance still due on this project, which will be received when the final voucher is submitted and approved.

The following projects also include traffic signals:

NRM 126-A	Newburyport
NRM 130-B	Auburn
NRH 172-B	Sterling-West Boylston

NRM 241-B Revere

NRM 242-A Arlington-Belmont-Cambridge

1935 National Recovery Funds:

Allotted as follows:

Andover	NRS 255	\$189,449.00
Athol-Orange*	NRS 254	156,859.56
Billerica-Chelmsford	NRS 253	107,146.04
Blandford	NRS 252	53,368.79
Boston-Brookline*	NRM 235-E	492,880.00
Boston-Dedham	NRM 251-B	128,471.56
Bourne	NRH 176-B	77,811.54
Bourne-Wareham*	NRH 125-C	146,040.32
Cheshire	NRH 173-E	149,590.82
Dracut-Methuen*	NRH 250	285,253.51
Dedham-Boston	NRH 251-A	229,244.00
Framingham†	NRH 211-B	1,741.00
Framingham†	NRH 211-F	2,678.64
Haverhill	NRM 69-B	42,203.56
Lenox†	NRH 114	7,056.32
Lenox†	NRH 147-A	673.44
Lowell	NRM 91	59,022.86
Millbury*	NRH 256-A	403,122.92
Montague*	NRS 257	313,699.92
Natick†	NRH 211-C	5,483.00
Northborough†	NRH 211-A	11,317.53
Otis-Blandford	NRS 247-B	67,036.95
Pittsfield*	NRM 21-C	30,035.83
Rutland	NRH 134-E	19,155.95
Sheffield†	NRH 98	330.72
Sheffield†	NRH 137-C	2,110.40
Southwick	NRH 73	133,561.79
Wayland	NRH 124-D	12,400.00
Westfield	NRM 155-C	54,312.55

Total Under Agreement	\$3,182,028.52
Amount Available	3,350,474.00

Agreement Pending	\$168,445.48
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The following projects also include sidewalks:

NRM 91	Lowell
NRH 250	Dracut-Methuen
NRH 251-A	Dedham
NRM 251-B	Boston
NRS 255	Andover

The following projects also include traffic signals:

NRH 256-A	Millbury
NRH 251-A	Dedham
NRM 251-B	Boston

Emergency Relief Appropriation Act of 1935

Works Program—Highways

Allotted as follows:

Attleboro-North Attle-		
borough-Plainville	WPSO 290	\$252,640.00
Cheshire* †	WPH 173-A	7,300.00
Cheshire*	WPH 173-E	9,780.00

* Balance due on these projects, to be received when final voucher is approved. All others are finished and final payment has been received.

† Landscape Projects.

Clinton	WPSO 291	86,170.00
Dartmouth-Westport	WPH 152-D	130,110.00
Deerfield-Sunderland†	WPH R 308-A	**389,770.00
Deerfield-Sunderland†	WPH R 308-B	**47,070.00
Gill-Montague	WPSO R 307	**521,293.00
Grafton-Shrewsbury	WPSO 288-A	8,670.00
Greenfield	WPH 222-B	67,272.64
Holyoke	WPMH 284-A	163,530.00
Lanesboro* †	WPH 173-B	3,870.00
Lanesboro* †	WPH 173-C	920.00
Lynn	WPMS 267	63,650.00
Lynnfield	WPH 272-A	271,940.00
Mansfield	WPSO 285-B	3,710.00
Mansfield	WPSO 278-A	4,710.00
Marshfield-Pembroke	WPSO 292	312,580.00
Middleboro*	WPH 149-A	720.00
Middleboro*	WPH 207-A	288.00
Peabody	WPMH 272-B	717,080.00
Sterling*	WPH 172-C	6,230.00
West Boylston*	WPH 240-A	910.00
West Boylston*	WPH 240-B	700.00
West Boylston*	WPH 240-C	460.00
West Bridgewater	WPSO 304	85,860.00
Worcester	WPMH 293-A	27,520.00
Worcester*	WPMH 240-A	639.00
Worcester*	WPMH 240-D	900.00

Total under Agreement	\$3,186,292.64
Amount Available	3,262,885.00

Agreement Pending	\$76,592.36
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There are balances due on all of the above projects. These are payable when the final vouchers are submitted and approved.

* Landscape Projects.

** 50% of Cost. See page ? for Remainder.

† These projects still under construction. All others completed.

Emergency Relief Appropriation Act of 1935

Works Program—Grade Crossings

Allotted as follows:

Amherst	WPGM 280-A	\$ 73,600.00
Ashburnham	WPGH 164-C	116,380.00
Attleboro	WPGM 274-A	92,560.00
Ayer	WPGS 263	117,333.04
Braintree	WPGS 287	9,541.00
Braintree*	WPGS 265	197,690.00
Canton-Norwood-		
Westwood	WPGS 269	106,800.00
Foxborough*	WPGS 270	131,510.00
Foxborough-Mansfield	WPGS 271	22,791.76
Grafton-Shrewsbury	WPGS 288-B	120,440.00
Hopkinton-Westborough	WPGS 289	91,990.00
Huntington*	WPGS 283	323,690.00
Lawrence	WPGM 275	82,660.00
Lunenburg	WPGS 276	78,851.19
Mansfield	WPGS 278-B	91,930.00
Mansfield	WPGS 285-A	90,050.00
Milford*	WPGS 305	117,850.00
Monson	WPGS 279	119,230.00
Newbury	WPGH 75-A	14,814.69
Newbury-Newburyport	WPGH 75-B	297,156.46

Quincy	WPGM 260	383,727.00
Sharon*	WPGS 262	151,133.23
Sharon	WPGS 277	65,060.00
Sheffield	WPGH 137-D	111,494.62
Sheffield-(Canaan)*	WPGH 310	7,250.00
Waltham	WPGM 208-C	207,519.98
Weymouth	WPGH 121-C	107,379.69
Worcester	WPGM 293-B	348,260.00
Total		\$3,678,692.66
Planning Survey		63,160.00
Total Under Agreement		\$3,741,852.66
Amount Available		4,210,833.00
Agreement Pending		\$468,980.34

* These projects still under construction. All others completed.

Balances are due on all of the above projects. These will be payable when the final vouchers are submitted and approved.

WPA Funds Used For Federal Aid Purposes

The following amount, \$958,133 was appropriated under the Emergency Relief Appropriation Act of 1935 and was transferred from the WPA to the Bureau of Public Roads.

This amount was apportioned to the following projects, each amount representing 50% of the estimated cost of the work. The remaining 50% was financed by regular Works Program Highway Funds.

Deerfield-Sunderland	WPH R 308-A	\$389,770.00
Deerfield-Sunderland	WPH R 308-B	47,070.00
Gill-Montague	WPSO R 307	521,293.00
Total		\$958,133.00

1936 Regular Federal Aid Funds (Hayden-Cartwright)

Apportioned as follows:

Arlington-Belmont-Cambridge*	242-A	1,180.00
Arlington-Belmont*	242-B	1,010.00
Bourne	258	166,967.55
Cohasset-Hingham* †	170-A	3,235.00
Cohasset-Scituate* †	170-B	6,649.00
Dedham-Norwood-Westwood*	231-B	325.00
Foxborough-Plainville-Wrentham*	220	665.00
Foxborough-Sharon-Walpole*	227	499.00
Gloucester*	99	600.00
Gloucester*	119-B	653.00
Hingham*	15	3,585.00
Holyoke	127-A	269,500.00
Lynnfield**	17	146,720.00
Millbury-Sutton	256-B	268,900.00
Norwood-Sharon-Walpole*	231-A	533.00
Pittsfield**	259-A	136,485.00
Saugus**	3	128,375.45
Saugus**	9	579,675.00
Total		\$1,715,557.00

P.D. 54	63
Planning Survey	26,125.00
Total Under Agreement	\$1,741,682.00
Amount Available	1,741,877.00
Agreement Pending	\$195.00

* Landscape Projects.

† Under construction. All others completed.

There are balances due on all of the above projects.

** Additional funds for these projects to come from 1937 Hayden-Cartwright Funds.

All of the above amounts representing 50% of the cost of the projects. The remaining 50% will be paid for by the State.

1937 Regular Federal Aid Funds (Hayden-Cartwright)

Apportioned as follows:

Bourne	106-A	\$48,475.00
Eastham-(Orleans)	36-A	103,155.00
Fitchburg-Leominster†	273-A	194,283.00
Lynnfield	17 (1936)	*5,285.00
Malden-Revere-Saugus	261	457,420.00
Orleans-(Eastham)	175-B	25,895.00
Pittsfield	259-A (1936)	*2,825.00
Saugus	3 (1936)	*7,434.55
Saugus	9 (1936)	8,500.00
Total		\$853,272.55
Planning Survey		26,150.00
Total Under Agreement		\$879,422.55
Amount Available		1,743,487.00
Agreement Pending		\$864,064.45

* Balance.

† Under Construction. All others completed.

Balance Due on All of these Projects.

The above amounts represent 50% of the cost of the projects. The remaining 50% will be paid for by the State.

BRIDGES

During the year the Department has built or contracted for 77 new bridges and structures, of which 54 were structures to replace those destroyed by the flood in 1936; has built or contracted for alterations, repairs or widening for 6 bridges, of which one was damaged by the flood; has examined and reported on 12 bridges at the request of the local public authorities; has examined and reported on 8 bridges at the request of Department authorities; has examined plans for 7 bridges under the provisions of Section 35, Chapter 85, General Laws (Tercentenary Edition); and has made preliminary studies, estimates or plans for 88 structures contemplated in the near future.

The various cities and towns, the localities therein, and the character of the work is given in detail as follows:

Bridges Built or Contracted for, to Replace Bridges Destroyed by Flood

Adams—Lime Street over Hoosic River, steel stringer bridge, one 47-foot span and one 49-foot span.

Ashfield—Spruce Corner over Swit River, steel stringer bridge, one 40-foot span.

Athol—Crescent Street over Millers River, steel stringer bridge, one 75-foot span.

Athol—At Orange line, Pinedale Road over Lawrence Brook, steel stringer bridge, one 52-foot span.

Athol—At Orange line, Fryeville Bridge over Tully River, steel stringer bridge, one 47-foot span.

Barre—South Barre Road over Ware River, steel truss bridge, one 85-foot span.

Barre—Powder Mill Bridge over Ware River, steel stringer bridge, two 36-foot spans and one 60-foot span.

Belchertown—At Palmer line, Depot Street over Swift River, steel stringer bridge, three 34-foot spans.

Berlin—Marlborough Road over Assabet River, steel stringer bridge, one 63-foot span.

Bolton—Seven Bridge Road over Still River, steel stringer bridge, two 30-foot spans and one 40-foot span.

Charlemont—At Shelburne line, Four Mile Square Road over Still River, steel arch bridge, one 122-foot span.

Colrain—Adamsville Road over North River, steel arch bridge, one 122-foot span.

Colrain—Frank Herzig Bridge over West Branch of North River, concrete rigid frame bridge, one 82-foot span.

Colrain—Robert Hillman Bridge over West Branch of North River, concrete rigid frame bridge, one 70-foot span.

Colrain—Overflow at Frank Herzig Bridge over West Branch of North River, concrete beam and slab bridge, one 20-foot span.

Dudley—At Webster line, Perryville Road over French River, Steel stringer bridge, one 52-foot span.

Dudley—Brandon Road over French River, steel stringer bridge, one 52-foot span.

Erving—At Montague line, Paper Mill Bridge over Millers River, steel through truss bridge, one 154-foot span.

Fitchburg—Circle Street over Nashua River, steel stringer bridge, one 75-foot span.

Fitchburg—Lunenburg Street over Baker Brook Overflow, concrete slab bridge, one 13-foot span.

Gardner—At Templeton line, Shoddy Mill Road over Otter River, steel stringer bridge, one 28-foot span.

Hadley—Scott's Bridge over Mill River, concrete rigid frame bridge, one 32-foot span.

Hatfield—Bridge Street over Mill River, steel stringer bridge, three 36-foot spans.

Holden—River Street over Quinapoxet River, concrete beam and slab bridge, two 23-foot spans and one 52-foot span.

Lancaster—Center Bridge Road over Nashua River, steel stringer bridge, two 80-foot spans.

Leominster—Mechanic Street over Nashua River, steel stringer bridge, two 40-foot spans and one 76-foot span.

Ludlow—At Wilbraham line, Red Bridge over Chicopee River, steel stringer bridge, two 83-foot spans.

Lunenburg—Townsend Harbor Road over Mulpus Brook, steel stringer bridge, one 23-foot span.

Northfield—Mt. Hermon Road over Nelson Pond, 8-foot by 8-foot concrete box culvert and extension to existing penstock.

Northfield—Burnham Road over Mill Brook, steel stringer bridge, one 63-foot span.

Orange—South Main Street over Millers River, steel stringer bridge, two 66-foot spans.

Orange—Holtshire Street over Millers River, steel stringer bridge, three 61-foot spans.

Orange—Warwick Road over Orcutt Brook, steel stringer bridge and concrete dam, one 30-foot span for bridge.

Palmer—Main Street over Ware River, concrete beam and slab bridge, two 29-foot spans and one 38-foot span.

Palmer—Church Street over Ware River, concrete beam and slab bridge, one 31-foot span, one 30-foot span, and one 48-foot span.

Pepperell—Main Street over Nashua River, steel stringer bridge, four 66-foot spans; and new supports for building at bridge site.

Pepperell—Mill Street over Nissitisset River, concrete rigid frame bridge, one 62-foot span.

Petersham—Choate's Pond Bridge over Swift River, steel stringer bridge, one 43-foot span.

Princeton—At Sterling line, Pottery Mill Bridge over Keyes Brook, concrete slab bridge, one 20-foot span.

Princeton—Ropers Mill Bridge over Ware River, steel stringer bridge, one 33-foot span.

Royalston—King Street over Millers River, steel pony truss bridge, one 85-foot span.

Royalston—South Royalston Road over Millers River, steel pony truss bridge, one 90-foot span.

Sterling—Bridge Road over East Wachusett Brook, concrete slab bridge, one 20-foot span.

Sutton—Stevens Road over Mumford River, steel stringer bridge, one 43-foot span.

Sutton—State highway over Mumford River, one 45-foot span steel stringer bridge and concrete retaining wall.

Townsend—Warren Road over Squannacook River, through plate girder bridge, one 86-foot span.

Uxbridge—Mendon Street over Blackstone River, steel stringer bridge, one 77-foot span.

Ware—Church Street over Ware River, steel stringer bridge, two 33-foot spans and one 84-foot span.

Ware—Gibbs Crossing over Ware River, steel stringer bridge, two 33-foot spans and one 84-foot span.

Winchendon—State highway route 202 over Millers River, concrete slab bridge, two 21-foot spans.

Winchendon—High Street over Millers River, steel stringer bridge, two 33-foot spans and one 60-foot span.

Winchendon—State highway route 12 over Millers River, steel stringer bridge, one 33-foot span.

Other Bridges Built or Contracted for

Adams—Center Street over Hoosic River, steel stringer bridge one 53-foot span.

Alford—West Street over Seekonk Brook, steel stringer bridge one 35-foot span.

Attleboro—Washington Street over N. Y., N. H., & H. R. R., steel stringer bridge, two 25-foot spans and one 40-foot span

Barre—School Street over Prince River, concrete slab bridge, one 21-foot span.

Blandford—Russell Road over Freeland Brook, concrete slab bridge, one 15-foot span.

Boston—Jamaicaway over Huntington Avenue, relieving platform at approach to bridge.

Braintree—Union Street under N. Y., N. H. & H. R. R., steel girder bridge, one 50-foot span.

Easthampton—Glendale Street over Manhan River, steel stringer bridge, two 24-foot spans and one 62-foot span.

Fitchburg—Concord to Westminster cut-off over Monoosnock Brook, one 35-foot concrete beam and slab and one 25-foot concrete arch.

Gill—At Montague line over Connecticut River, Canal and New York, New Haven & Hartford Railroad at Turners Falls; one 48-foot steel stringer span over railroad; one 211-foot steel deck truss span over canal; one 150-foot span, two 400-foot spans and one 450-foot span steel

deck trusses over river; total length about 2100 feet, including the wing walls.

Hadley—At Northampton line, Calvin Coolidge Memorial Bridge over Connecticut River, steel deck trusses, two 203-foot spans, two 260-foot spans, and one 296-foot span; total length 1441 feet, including wing walls.

Holden—River Street over Wachusett Brook, steel stringer bridge, one 52-foot span.

Huntington—Cut-off over Westfield River and Boston and Albany Railroad with ramp from bridge to railroad station; one 36-foot span steel stringer; one 83-foot span steel rigid frame over railroad; two 40-foot spans and two 44-foot spans steel stringers and one 185-foot span steel arch over river; and four 42-foot spans steel stringers for the ramp; total length of bridge 615 feet.

Lee—Columbia Street over Coddings Brook, 12-foot by 8-foot concrete box culvert.

Lowell—Central Bridge over Merrimack River: One 473-foot span suspension bridge for temporary foot travel; through steel truss bridge, two 138-foot spans and one 198-foot span.

Lowell—Canal at approaches to Central Bridge, steel stringer bridge, one 49-foot span.

Milford—Medway Street over Boston & Albany Railroad, steel stringer bridge, two 49-foot spans and one 64-foot span.

Pittsfield—South Street over Housatonic River, steel stringer bridge, one 61-foot span.

Quincy—At Water Street; canopies, shelters and platform lighting built in connection with bridge construction.

Sharon—At Sharon Station; canopies, shelter shed and lights.

Southbridge—North Woodstock Road over New York, New Haven & Hartford Railroad, steel stringer bridge, one 49-foot span.

Swampscott—Paradise Road under Boston & Maine Railroad, steel girder bridge with timber floor, one 81-foot span.

Alterations, Repairs or Widening Made or Contracted for

Berkley—At Dighton line, Bridge Street over Taunton River, repairs made to floor and draw operating parts.

Fall River—At Somerset line, Slades Ferry Bridge over Taunton River, existing bridge altered by building new draw span, new floor and making general repairs.

Hamilton—At Ipswich line, Highland Street over Ipswich River, existing bridge widened.

Hanson—Main Street over Poor Meadow Brook, existing concrete arch widened.

Lee—Columbia Street over Washington Mountain Brook, existing bridge widened.

Lowell—Moody Street over Merrimack River, existing deck truss bridge repaired after damage by flood.

*Examinations, Reports, Estimates, etc., at Request of
Local Authorities*

Adams—Pleasant Street over Hoosic River, report made on improvement of waterway.

Bridgewater—At Halifax line, Cherry Street over Taunton River, examination and report on existing bridge.

Essex—Pond Street over Essex River, examination and report on existing bridge.

Falmouth—Nashawena Street over Nashawena Creek, examination and report on existing bridge.

Framingham—Central Street at Saxonville Village, examination and report on condition of retaining wall.

Greenfield—Shelburne Street over Green River, examination and report on existing bridge.

Monroe—At Rowe line over Deerfield River, examination and report on existing bridge.

Newbury—White's Bridge on Newman Road over Little River, examination and report on existing bridge.

Newbury—Plum Island Turnpike over Plum Island Creek, examination and report on existing bridge.

Oxford—Rochdale Street over French River, examination and report on existing bridge.

Palmer—Dutton's Bridge over Ware River, examination and report on existing bridge and proposed bridge.

Saugus—Ballard Street over Tidal Creek, examination and report on existing bridge.

*Examinations, Reports, Estimates, etc., at Request of
Department Authorities*

Agawam—At Springfield line, South End Bridge over Connecticut River, estimate for new bridge.

Arlington—River Street over Mystic River, review of prices paid for stone work on bridge.

Greenfield—At Montague line, Montague City Bridge over Connecticut River, examination and report on existing bridge.

Norfolk—At Walpole line, Winter Street over Stop River, examination and report on existing bridge.

Northampton—South Street over Mill River and New York, New Haven & Hartford Railroad and South Street over Clark Street, estimate for reconstruction of the bridges.

Oxford—At Degnam Bridge, report on responsibility for damage due to flood of 1936.

Townsend—Muddy Road Bridge, examination and report on existing bridge.

*Plans Examined Under the Provisions of Section 35,
Chapter 85, General Laws (Ter. Ed.)*

Brockton—East Ashland Street over Trout Brook.

New Braintree—Hardwick Road over Winnamisset Brook.

Saugus—Elm. Street over a culvert.

Springfield—State Street Bridge over Roosevelt Avenue, and Water Shop Bridge.

Westminster—Whitmanville Bridge over Whitman River.

Worcester—Grove Street Bridge over Mill Brook.

*Contemplated Structures for which Preliminary Studies,
Estimates, or Plans Have Been Made*

Ashland—Main and Cheery Streets over Boston & Albany Railroad.

Ashland—Pedestrian underpass on Main Street under Boston & Albany Railroad.

Athol—Main Street over Boston & Maine Railroad.

Belchertown—Granby Road over Boston & Maine Railroad.

Bellingham—Mendon Street over New York, New Haven, & Hartford Railroad.

Bernardston—Hale's Crossing over Boston & Maine Railroad.

Beverly—Paradise Crossing over Boston & Maine Railroad.

Boston—At Cambridge line, traffic circle at end of Prison Point Bridge.

Boston—At Milton line, over Neponset River on a proposed new route.

Boston—At Milton line, near Paul's Bridge over Neponset River.

Boston—Porter Street over Boston & Albany Railroad; Prescott Street over Tunnel Road; Bennington and Neptune Streets over Tunnel Road; and Saratoga Street over Tunnel Road.

Boston—East Milton Street over Mattapan connecting highway.

Brimfield—Sturbridge Road over Mill Brook.

Brookline—At Brookline Village and at Cypress Street at junction with Worcester Turnpike.

- Cambridge*—Alterations at approach to Cottage Farm Bridge.
Charlemont—Depot Street over Deerfield River.
Cheshire—Auto route 8 over Boston & Albany Railroad.
Chesterfield—First Bridge and Second Bridge over Stevens Brook.
Chicopee—Elimination of grade crossing, Plainfield Street at Boston & Maine Railroad.
Danvers—Salem Turnpike under Boston and Maine Railroad.
Danvers—Andover Street over Newburyport Turnpike.
Falmouth—Silver Beach Road over Herring River and over New York, New Haven & Hartford Railroad.
Fitchburg—Concord to Westminster cut-off over Woodbury Mill Pond.
Florida—At Savoy line, Mohawk Trail over Cold River.
Gardner—Mechanic Street highway bridge and pedestrian overpass over Boston & Maine Railroad.
Gloucester—Essex Avenue under Boston & Maine Railroad.
Grafton—Depot Street over Blackstone Canal.
Hatfield—West Street over Mill River, widening of bridge.
Haverhill—River Street over Bradley Brook, widening of bridge.
Haverhill—At Methuen line, Bradley Avenue over Hawkes Brook, widening of bridge.
Holliston—Washington Street over Boston & Albany R. R.
Ipswich—Separation of grades at Newburyport Turnpike and Linebrook Road.
Lawrence—Winthrop Avenue over Shawsheen River, Widening of bridge.
Lee—Auto route 20 over Housatonic River.
Leominster—Concord to Westminster cut-off under New York, New Haven & Hartford Railroad, and under North Main Street.
Lincoln—South Great Road over Boston & Maine Railroad.
Manchester—Proposed road over Manchester Harbor.
Mansfield—Pedestrian underpass at Elm Street under New York, New Haven & Hartford Railroad.
Marblehead—Village Street over Boston & Maine Railroad.
Medfield—At Millis line, Dwight Street over Charles River.
Milton—Proposed road over New York, New Haven, and Hartford Railroad.
Monroe—Valley Road over Dunbar Brook, widening existing bridge.
Montague—Main Street over Central Vermont Railway.
Newburyport—High Street over Boston & Maine Railroad.
Newton—At Weston line, Northern Circumferential Highway over Charles River.
North Adams—Williamstown Road over a brook, widening existing bridge.
North Andover—Boxford Road over Mosquito Brook.
Northbridge—Mendon Road over West River.
Palmer—Dutton's Bridge over Ware River.
Peabody—Lowell Street over Newburyport Turnpike.
Peabody—Andover Street over Circumferential Highway.
Pittsfield—South Street over New York, New Haven & Hartford Railroad.
Randolph—North Street over New York, New Haven & Hartford Railroad.
Rowley—Haverhill Street over Newburyport Turnpike.
Salisbury—Elm Street over Boston & Maine Railroad.
Sharon—Garden Street over New York, New Haven & Hartford Railroad, pedestrian overpass.
Shrewsbury—Southwest Connection over Flint Pond, over Lake Quinsigamond and over Grafton Street.
Southwick—College Highway over Uncle Oliver's Brook.
Southwick—State Highway over Webb Brook.
Sudbury—Boston Post Road over Parmenters Mill Pond.

Sudbury—Worcester Road over New York, New Haven & Hartford Railroad.

Sutton—Worcester Road over Wilkinsonville Road.

Sutton—Worcester to Providence Road over Central Turnpike.

Tewksbury—Wamesit Crossing over Boston & Maine Railroad.

Topsfield—Ipswich Road over Newburyport Turnpike.

West Bridgewater—West Centre Street over Hockamuck River.

West Springfield—Dike wall on Riverdale Road at North End Bridge.

Weston—Circumferential Highway over South Avenue and over Weston Aqueduct.

Williamstown—North Adams Road over Green River.

Winchendon—New Boston Road over Boston & Maine Railroad.

Winchendon—Pequoig Crossing, Ashburnham Road over Boston & Maine Railroad.

Winchester—Main Street over outlet of Wedge Pond.

Windsor—Worthington Road over two brooks.

Windsor—Savoy Road over Westfield River.

CONSTRUCTION OF TOWN AND COUNTY WAYS

(Section 34, Chapter 90, General Laws, Ter. Ed.)

During the year the Department has contracted for work to be done in the towns and cities named in the following table, which also shows the type of road or nature of work, the length contracted for, and the allotments or contributions by the State, towns, cities, and counties:

COUNTIES AND TOWNS	CONTRIBUTIONS			TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
	State	Town	County		
<i>Barnstable County</i>					
Barnstable . . .	\$3,500.00	\$2,500.00	\$2,500.00	Gravel and tar mixed in place	6,362
Barnstable . . .	1,049.69	750.15	750.15		
Barnstable . . .	185.31	132.35	132.35	Repairs	515
Barnstable . . .	300.00	150.00	150.00	Riprap	—
Barnstable . . .	9,265.00	6,717.50	6,717.50	Bituminous concrete	2,931
Bourne	15,200.00	7,600.00	7,600.00	Bituminous concrete	3,390
Brewster	3,500.00	—	3,500.00	Bituminous concrete	1,850
Falmouth	7,000.00	3,500.00	3,500.00	Bituminous concrete	2,990
Harwich	7,000.00	3,500.00	3,500.00	Bituminous concrete	6,700
Orleans	7,700.00	5,500.00	5,500.00	Bituminous concrete	3,418
Wellfleet	4,200.00	3,000.00	3,000.00	Clay hardening	6,050
<i>Berkshire County</i>					
Adams	\$12,000.00	\$6,000.00	\$6,000.00	Bridge and approaches	—
Alford	1,000.00	500.00	500.00	Gravel	900
Alford			250.00	Oiling	2,000
Alford	500.00	250.00		Gravel and tar	700
Alford	3,750.00	1,875.00	1,875.00	Bridge	—
Becket	2,800.00	1,400.00	1,400.00	Gravel	1,275
Becket				Oiling	1,800
Becket	1,000.00	500.00	500.00	Gravel	650
Cheshire	2,200.00	1,100.00	1,100.00	Gravel	1,650
Clarksburg	1,400.00	700.00	700.00	Gravel and calcium chloride	900
Clarksburg	400.00	400.00	400.00	Repairs and oiling	13,025
Dalton	7,000.00	3,500.00	3,500.00	Bituminous concrete	2,272
Dalton	1,000.00	1,500.00	1,000.00	Bituminous concrete	525
Dalton	400.00	400.00	400.00	Repairs	1,850
Dalton	2,500.00	1,250.00	1,250.00	Stone retread	4,700
Egremont	2,200.00	1,100.00	1,100.00	Gravel	1,250
Florida	2,800.00	2,000.00	1,400.00	Gravel	700
Great Barrington	7,000.00	3,500.00	3,500.00	Bituminous concrete	2,700
Great Barrington	1,200.00	1,200.00	1,200.00	Maintenance	24,469
Hancock	7,000.00	500.00	1,800.00	Bituminous macadam	1,900
Hinsdale	5,182.00	79.00	—	Maintenance	7,271
Hinsdale			500.00	Gravel and tar and stone retread	1,000
Hinsdale	1,500.00	500.00	—	Maintenance	13,200
Hinsdale	1,027.00	187.00	—	Oiling and stone retread	2,850
Lanesborough	3,500.00	1,750.00	650.00	Gravel	600
Lanesborough	1,400.00	1,000.00	2,100.00	Oiling and stone retread	3,663
Lanesborough	3,500.00	—	3,500.00	Gravel	2,300
Lee	9,300.00	5,000.00	4,650.00	Bridge	—
Lee				Bridge extension	—
Lenox	3,500.00	2,500.00	1,750.00	Bituminous concrete	1,846
Lenox				Grading and drainage	1,388
Lenox				Stone retread	1,600
Lenox				Grading and drainage	2,450

COUNTIES AND TOWNS	CONTRIBUTIONS			TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
	State	Town	County		
Lenox	5,600.00	2,500.00	2,800.00	Bituminous concrete . . .	1,157
Monterey	2,100.00	1,050.00	1,050.00	Gravel	1,250
				Oiling	1,975
Mount Washington	1,500.00	500.00	1,000.00	Gravel	1,550
New Ashford	800.00	400.00	400.00	Gravel	700
New Ashford	500.00	250.00	250.00	Gravel	600
New Marlborough	4,200.00	2,100.00	2,100.00	Gravel	2,150
				Oiling and stone retread . . .	2,000
North Adams	15,000.00	9,000.00	7,500.00	Bituminous concrete . . .	2,893
North Adams	3,500.00	—	3,500.00	Gravel	1,950
Otis	3,200.00	2,250.00	1,600.00	Oiling	2,750
				Gravel	1,600
Peru	1,703.00	52.00	—	Maintenance	18,200
Peru	1,423.00	43.00	—	Maintenance	15,300
Pittsfield	42,000.00	30,000.00	40,000.00	Bridge	
				Reinforced cement concrete . . .	240
				Bituminous concrete . . .	6,927
Richmond	1,800.00	900.00	900.00	Gravel	1,300
Richmond	800.00	800.00	800.00	Maintenance	18,480
Sandisfield	2,800.00	2,000.00	1,400.00	Oiling	1,950
				Gravel	1,750
Savoy	1,500.00	500.00	1,500.00	Gravel	1,200
Sheffield	1,400.00	1,000.00	700.00	Gravel	900
Sheffield	1,400.00	1,000.00	700.00	Gravel	1,075
Stockbridge	5,300.00	3,750.00	2,650.00	Bituminous concrete . . .	2,050
Stockbridge	700.00	700.00	700.00	Maintenance	15,165
Tyringham	2,800.00	1,400.00	1,400.00	Oiling	2,950
				Gravel	3,250
Washington	9,000.00	1,500.00	9,000.00	Gravel and tar	7,285
West Stockbridge	2,500.00	1,750.00	1,250.00	Gravel	1,100
West Stockbridge	1,800.00	1,250.00	900.00	Oiling	1,250
				Gravel and tar	1,650
Williamstown	3,500.00	1,750.00	1,750.00	Oiling, gravel and stone re- tread	9,133
Windsor	1,400.00	700.00	700.00	Gravel	1,000
<i>Bristol County</i>					
Acushnet	\$3,500.00	\$2,500.00	\$2,500.00	Bituminous macadam . . .	1,350
Attleboro	9,000.00	4,500.00	4,500.00	Bituminous macadam . . .	2,620
Berkley	1,000.00	1,000.00	1,000.00	Maintenance	46,936
Berkley	1,200.00	600.00	600.00	Bridge repairs	—
Dighton	2,000.00	1,400.00	1,400.00	Bridge repairs	—
Dartmouth	9,100.00	4,550.00	4,550.00	Bituminous concrete . . .	3,600
Easton	7,000.00	3,500.00	3,500.00	Bituminous concrete . . .	1,950
Fairhaven	1,000.00	1,000.00	1,000.00	Maintenance	28,195
Freetown	1,000.00	1,000.00	1,000.00	Maintenance	62,527
North Attleborough	4,900.00	2,450.00	2,450.00	Bituminous concrete . . .	1,250
Norton	500.00	500.00	500.00	Maintenance	23,194
Raynham	500.00	500.00	500.00	Maintenance	16,080
Rehoboth	4,000.00	2,500.00	2,500.00	Gravel and tar	1,800
Rehoboth	800.00	800.00	800.00	Maintenance	53,887
Seekonk	7,000.00	5,000.00	5,000.00	Bituminous concrete . . .	2,330
Taunton	7,000.00	3,500.00	3,500.00	Bituminous concrete . . .	1,090
<i>Dukes County</i>					
Edgartown	\$1,900.00	\$950.00	\$950.00	Maintenance	15,534
Tisbury	1,500.00	750.00	750.00	Maintenance	7,707
Tisbury	1,400.00	700.00	700.00	Maintenance	6,972
West Tisbury	500.00	250.00	250.00	Maintenance	4,150
<i>Essex County</i>					
Amesbury	\$5,600.00	\$2,800.00	\$2,800.00	Gravel and tar	4,200
Amesbury	1,000.00	1,000.00	—	Maintenance	15,200
Andover	8,400.00	4,200.00	4,200.00	Penolithic pavement . . .	3,520
Beverly	6,300.00	3,150.00	3,150.00	Bituminous concrete . . .	3,568
Beverly	2,500.00	1,250.00	1,250.00	Bituminous concrete . . .	1,150
Beverly	5,200.00	2,600.00	2,600.00	Bituminous concrete . . .	1,650
Boxford	2,100.00	1,050.00	1,050.00	Broken stone mixed in place with asphalt emulsion . . .	1,500
Boxford	3,500.00	1,750.00	1,750.00	Grading and drainage . . .	3,985
Boxford	1,000.00	1,000.00	—	Maintenance	7,300
Danvers	8,400.00	4,200.00	4,200.00	Bituminous macadam . . .	2,200
Essex	1,000.00	1,000.00	—	Maintenance	23,750
Georgetown	1,000.00	1,000.00	—	Maintenance	6,800
Gloucester	2,710.20	2,710.20	—	Bituminous macadam . . .	1,200
Gloucester	789.80	789.80	—	Broken stone surfacing . . .	1,200
Groveland	500.00	500.00	—	Maintenance	12,626
Hamilton	5,900.00	4,300.00	2,950.00	Bituminous concrete . . .	3,382
Hamilton	500.00	500.00	—	Maintenance	30,807
Hamilton	2,500.00	1,250.00	1,250.00	Bituminous macadam . . .	2,932
Haverhill	23,000.00	11,500.00	27,500.00	Bituminous macadam . . .	4,311
Haverhill	5,000.00	5,000.00	—	Bituminous concrete . . .	1,210
Hamilton	3,000.00	1,500.00	1,500.00	Roadway slab with sidewalk extension on stone arch bridge	—
Ipswich	3,500.00	1,750.00	1,750.00	Bituminous concrete . . .	1,200
Ipswich	4,500.00	2,250.00	2,250.00	Bituminous concrete . . .	1,200

COUNTIES AND TOWNS	CONTRIBUTIONS			TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
	State	Town	County		
Ipswich	4,200.00	2,100.00	2,100.00	Broken stone mixed in place with cut-back asphalt	3,400
Lawrence	5,000.00	2,500.00	2,500.00	Reinforced cement concrete (widening)	2,264
Lawrence	6,300.00	3,150.00	3,150.00	Bituminous concrete	2,370
Lynnfield	3,500.00	1,750.00	1,750.00	Bituminous concrete	623
Lynnfield	4,200.00	2,100.00	2,100.00	Broken stone mixed in place with cut-back asphalt	2,300
Lynnfield	500.00	500.00	—	Maintenance	18,950
Marblehead	14,000.00	7,000.00	7,000.00	Bituminous concrete	3,125
Merrimac	1,500.00	1,500.00	—	Maintenance	10,500
Methuen	14,000.00	7,000.00	7,000.00	Bituminous concrete	2,747
Middleton	12,300.00	1,900.00	4,700.00	Bituminous concrete	2,300
Middleton	1,000.00	1,000.00	—	Maintenance	14,414
Newbury	1,500.00	1,500.00	—	Maintenance	10,000
North Andover	4,900.00	2,450.00	2,450.00	Broken stone mixed in place with cut-back asphalt	3,100
Peabody	9,100.00	4,550.00	4,550.00	Bituminous macadam	2,044
Rockport	2,100.00	1,050.00	1,050.00	Broken stone mixed in place with asphalt	2,050
Rockport	2,100.00	1,050.00	1,050.00	Broken stone mixed in place with asphalt	650
Rockport	500.00	500.00	—	Maintenance	3,000
Rowley	1,400.00	700.00	700.00	Gravel and tar	2,400
Salisbury	2,100.00	1,050.00	1,050.00	Grading	1,950
Salisbury	1,400.00	700.00	700.00	Gravel mixed in place with tar	1,250
Saugus	2,800.00	2,000.00	1,400.00	Penolithic pavement	918
Saugus	4,200.00	3,000.00	2,100.00	Penolithic pavement (wid- ening)	4,000
Swampscott	2,100.00	1,050.00	1,050.00	Bituminous macadam	400
Topsfield	9,100.00	1,400.00	3,500.00	Bituminous concrete	2,544
Topsfield	1,000.00	1,000.00	—	Maintenance	21,400
Wenham	9,100.00	1,400.00	3,500.00	Bituminous concrete	1,972
Wenham				Bituminous concrete	800
West Newbury	3,500.00	1,750.00	1,750.00	Grading and drainage	2,050
<i>Franklin County</i>					
Ashfield	\$1,000.00	\$500.00	\$500.00	Gravel and tar	2,700
Ashfield	1,344.00	96.00	—	Maintenance	12,672
Ashfield	1,000.00	500.00	500.00	Gravel mixed in place with tar	2,400
Buckland	1,400.00	700.00	700.00	Broken stone mixed in place with cut-back asphalt	2,500
Charlemont	1,400.00	700.00	700.00	Grading	1,800
Colrain	1,400.00	700.00	700.00	Grading and drainage	900
Conway	2,100.00	1,400.00	700.00	Gravel	750
Deerfield	1,400.00	700.00	700.00	Bituminous macadam	685
Erving	1,400.00	700.00	700.00	Gravel	900
Gill	1,400.00	700.00	700.00	Gravel mixed in place with tar	700
Gill	2,448.00	352.00	—	Maintenance	14,784
Greenfield	3,500.00	2,800.00	700.00	Bituminous macadam	4,050
Hawley	1,400.00	350.00	350.00	Gravel	800
Hawley	1,400.00	350.00	350.00	Gravel	400
Heath	1,400.00	700.00	700.00	Gravel	600
Leverett	1,400.00	700.00	700.00	Gravel mixed in place with tar	1,800
Leyden	2,800.00	700.00	700.00	Grading	1,550
Monroe	1,400.00	700.00	700.00	Gravel	600
Montague	6,300.00	5,600.00	700.00	Bituminous macadam	2,807
New Salem	2,100.00	1,400.00	700.00	Gravel mixed in place with tar	8,400
New Salem	900.00	600.00	300.00	Grading	600
Northfield	1,400.00	700.00	700.00	Gravel mixed in place with tar	3,000
Orange	7,500.00	6,500.00	1,000.00	Bituminous concrete	2,649
Orange	560.00	280.00	—	Maintenance	7,892
Orange	1,500.00	1,500.00	—	Maintenance	22,570
Rowe	2,100.00	1,050.00	700.00	Gravel	1,625
Shelburne	1,400.00	700.00	700.00	Bituminous macadam	1,600
Shutesbury	1,400.00	700.00	700.00	Gravel	750
Sunderland	7,700.00	3,000.00	700.00	Bituminous macadam	5,258
Warwick	1,400.00	700.00	700.00	Gravel	600
Warwick	3,365.00	55.00	—	Maintenance	30,624
Wendell	2,100.00	1,400.00	700.00	Gravel	2,250
Wendell	1,250.00	1,250.00	—	Maintenance	25,872
Whately	1,400.00	700.00	700.00	Bituminous macadam	1,050
<i>Hampden County</i>					
Agawam	\$7,700.00	\$3,850.00	\$3,850.00	Bituminous macadam	2,825
Agawam	1,200.00	600.00	600.00	Repairs and oiling	19,008
Elandford	4,500.00	2,000.00	2,500.00	Bridge and approaches	—
Brimfield	2,800.00	1,400.00	1,400.00	Oiling	2,200
Brimfield	2,800.00	1,400.00	1,400.00	Gravel mixed in place with tar	1,750
Brimfield	1,000.00	1,000.00	1,000.00	Maintenance	36,532

COUNTIES AND TOWNS	CONTRIBUTIONS			TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
	State	Town	County		
Chester	600.00	600.00	600.00	Maintenance	14,150
Chester	2,800.00	700.00	1,400.00	Stone retread	4,700
Chester	2,800.00	700.00	1,400.00	Oiling	6,500
Chicopee	17,900.00	3,950.00	8,950.00	Gravel	1,170
East Longmeadow .	7,000.00	3,500.00	3,500.00	Bituminous concrete .	7,598
East Longmeadow .	400.00	400.00	400.00	Bituminous macadam .	3,300
East Longmeadow .	800.00	400.00	400.00	Maintenance	8,750
East Longmeadow .	1,400.00	700.00	700.00	Gravel mixed in place with tar	2,250
Granville	4,200.00	2,100.00	2,100.00	Gravel mixed in place with tar	2,123
Hampden	2,130.00	800.00	1,300.00	Bituminous macadam .	1,200
Hampden	400.00	400.00	400.00	Gravel mixed in place with tar	2,000
Holland	2,800.00	700.00	2,100.00	Maintenance	12,600
Holland	500.00	500.00	500.00	Gravel mixed in place with tar	3,575
Holland	250.00	250.00	250.00	Maintenance	25,600
Longmeadow . . .	6,000.00	3,000.00	3,000.00	Maintenance	20,750
Ludlow	3,400.00	1,700.00	1,700.00	Gravel mixed in place with cut-back asphalt . .	6,471
Ludlow	2,500.00	1,250.00	1,250.00	Bituminous macadam .	1,600
Ludlow	1,500.00	750.00	750.00	Bituminous macadam .	1,100
Monson	3,500.00	2,500.00	1,750.00	Bituminous macadam .	700
Monson	3,500.00	2,500.00	1,750.00	Gravel mixed in place with asphaltic oil	2,300
Monson	500.00	500.00	500.00	Bituminous concrete .	1,220
Montgomery . . .	3,500.00	700.00	1,800.00	Maintenance	12,050
Montgomery . . .	300.00	300.00	300.00	Stone retread	2,500
Palmer	7,000.00	5,000.00	3,500.00	Gravel	2,150
Palmer	1,000.00	1,000.00	1,000.00	Maintenance	7,250
Russell	750.00	375.00	375.00	Bituminous concrete .	2,294
Russell	150.00	150.00	150.00	Maintenance	18,700
Southwick	3,500.00	1,400.00	2,100.00	Retaining wall . . .	
Southwick	2,260.00	740.00	—	Repairs	
Southwick	700.00	700.00	700.00	Bituminous macadam .	1,900
Springfield . . .	29,800.00	14,900.00	14,900.00	Maintenance	13,728
Tolland	3,500.00	1,400.00	2,100.00	Maintenance	16,368
Wales	2,100.00	1,050.00	1,050.00	Bituminous concrete .	9,100
Wales	300.00	300.00	300.00	Stone retread	4,150
West Springfield .	11,600.00	5,800.00	5,800.00	Gravel	650
Westfield	2,100.00	1,050.00	1,050.00	Gravel mixed in place with tar	1,700
Westfield	4,200.00	2,100.00	2,100.00	Maintenance	13,000
Westfield	1,000.00	1,000.00	1,000.00	Bituminous concrete .	1,252
Wilbraham	2,800.00	1,400.00	1,400.00	Bituminous macadam .	2,270
Wilbraham	1,000.00	500.00	500.00	Gravel stone mixed in place with tar	5,000
Wilbraham	350.00	350.00	350.00	Maintenance	18,555
<i>Hampshire County</i>					
Amherst	\$8,400.00	\$5,600.00	\$2,800.00	Bituminous macadam .	2,700
Belchertown . . .	5,300.00	2,650.00	2,650.00	Bituminous concrete .	3,200
Belchertown . . .	1,288.00	92.00	—	Maintenance	12,144
Chesterfield . . .	1,000.00	500.00	500.00	Gravel	500
Chesterfield . . .	1,000.00	500.00	500.00	Gravel and tar	542
Chesterfield . . .	1,000.00	500.00	500.00	Gravel	600
Chesterfield . . .	250.00	250.00	250.00	Maintenance	5,280
Chesterfield . . .	3,450.00	150.00	—	Maintenance	31,680
Cummington . . .	1,800.00	900.00	200.00	Gravel	1,100
Cummington . . .	400.00	200.00	200.00	Gravel	400
Cummington . . .	250.00	250.00	250.00	Maintenance	2,500
Cummington . . .	863.00	37.00	—	Maintenance	7,920
Easthampton . . .	13,000.00	6,500.00	6,500.00	Bridge	—
Easthampton . . .	3,200.00	1,800.00	1,400.00	Bituminous concrete .	1,800
Enfield	500.00	500.00	500.00	Maintenance	13,200
Goshen	1,400.00	700.00	700.00	Gravel	900
Goshen	1,035.00	45.00	—	Maintenance	9,504
Granby	2,800.00	1,400.00	1,400.00	Bituminous macadam .	1,100
Greenwich	1,000.00	500.00	500.00	Repairs and oiling .	19,536
Hadley	3,600.00	1,800.00	1,800.00	Gravel and asphaltic oil	2,050
Hadley	400.00	400.00	400.00	Bituminous macadam .	725
Huntington	2,800.00	1,400.00	1,400.00	Maintenance	10,650
Middlefield	1,400.00	700.00	700.00	Gravel and tar	5,000
Middlefield	1,000.00	500.00	500.00	Gravel	685
Middlefield	3,294.00	506.00	500.00	Oiling and stone retread	1,800
Northampton . . .	2,100.00	1,050.00	1,050.00	Gravel	550
Northampton . . .	1,400.00	700.00	700.00	Stone retread	2,200
Northampton . . .	4,200.00	2,100.00	2,100.00	Bituminous macadam .	1,390
Northampton . . .	5,000.00	2,500.00	2,500.00	Gravel mixed in place with tar	2,700
Pelham	18,250.00	2,000.00	6,750.00	Bituminous macadam .	2,050
				Bituminous concrete .	1,350
				Bituminous concrete .	4,950

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
	State	Town			
Plainfield	1,400.00	700.00	700.00	Gravel and tar	900
Plainfield	300.00	300.00	300.00	Maintenance	7,000
Plainfield	1,463.00	37.00	—	Maintenance	10,560
South Hadley	6,200.00	3,100.00	3,100.00	Bituminous concrete	3,538
South Hadley	1,400.00	700.00	700.00	Repairs and drainage	8,000
Southampton	1,000.00	500.00	500.00	Stone retread	1,475
Ware	3,500.00	1,750.00	1,750.00	Bituminous concrete (wid- ening)	3,444
Westhampton	1,400.00	700.00	700.00	Gravel	1,000
Westhampton	500.00	500.00	500.00	Maintenance	10,000
Williamsburg	1,800.00	900.00	900.00	Bridge and approaches	—
Williamsburg	250.00	250.00	250.00	Maintenance	5,280
Worthington	2,000.00	1,000.00	1,000.00	Gravel	1,500
Worthington	1,400.00	1,000.00	1,000.00	Gravel	754
Worthington	593.00	34.00	—	Maintenance	7,193
Worthington	2,960.00	135.00	—	Maintenance	28,700
<i>Middlesex County</i>					
Acton	\$3,500.00	\$2,500.00	\$2,500.00	Bituminous concrete	1,200
Acton	1,400.00	2,000.00	2,000.00	Maintenance	102,432
Acton	1,400.00	1,000.00	1,600.00	Gravel and tar	420
Arlington	4,200.00	3,000.00	3,000.00	Bituminous concrete	780
Ashby	500.00	1,000.00	1,000.00	Maintenance	19,536
Ashby	1,000.00	500.00	1,000.00	Gravel and tar	1,500
Ashland	1,500.00	1,500.00	1,500.00	Maintenance	31,680
Ashland	1,000.00	500.00	1,000.00	Gravel and tar	1,550
Ayer	4,900.00	3,500.00	3,500.00	Bituminous concrete	1,950
Ayer	1,400.00	2,000.00	2,000.00	Maintenance	50,054
Bedford	1,400.00	2,000.00	2,000.00	Maintenance	46,464
Bedford	1,800.00	1,000.00	1,000.00	Bituminous macadam	1,000
Bedford	3,500.00	2,000.00	2,000.00	Bituminous concrete	1,500
Belmont	4,500.00	4,500.00	4,500.00	Bituminous concrete	1,950
Billerica	2,100.00	3,000.00	3,000.00	Maintenance	99,422
Billerica	4,200.00	3,000.00	3,000.00	Bituminous macadam	1,900
Billerica	4,200.00	3,000.00	3,000.00	Bituminous concrete	1,550
Boxborough	700.00	800.00	800.00	Maintenance	44,035
Boxborough	500.00	250.00	250.00	Gravel and tar	1,400
Burlington	2,100.00	3,000.00	3,000.00	Maintenance	85,536
Burlington	2,200.00	2,000.00	2,000.00	Bituminous macadam (wid- ening)	2,800
Burlington	2,800.00	2,000.00	2,000.00	Gravel (widening)	4,500
Cambridge	16,000.00	16,000.00	—	Bituminous concrete	4,212
Cambridge	29,000.00	29,000.00	—	Bituminous concrete	4,893
Carlisle	1,500.00	1,500.00	1,500.00	Maintenance	64,944
Chelmsford	2,100.00	3,000.00	3,000.00	Maintenance	33,952
Chelmsford	4,200.00	3,500.00	3,500.00	Bituminous concrete	1,650
Concord	1,500.00	1,500.00	1,500.00	Maintenance	99,739
Concord	4,000.00	4,405.00	4,000.00	Bituminous macadam	1,635
Concord	7,200.00	6,000.00	4,800.00	Bituminous concrete	1,960
Dracut	2,100.00	3,000.00	3,000.00	Maintenance	56,232
Dracut	4,200.00	3,000.00	3,000.00	Bituminous concrete	1,500
Dunstable	1,500.00	1,500.00	1,500.00	Maintenance	50,160
Dunstable	1,400.00	1,000.00	1,000.00	Gravel (widening)	2,000
Everett	35,000.00	35,000.00	—	Bituminous concrete	6,813
Frammingham	9,200.00	8,400.00	8,400.00	Penolithic pavement	4,026
Frammingham	5,500.00	5,900.00	5,900.00	Bituminous concrete	1,750
Frammingham	1,400.00	2,000.00	2,000.00	Maintenance	85,483
Groton	2,500.00	3,500.00	3,500.00	Maintenance	58,186
Groton	4,200.00	3,000.00	3,000.00	Gravel and tar	3,350
Holliston	1,500.00	1,500.00	1,500.00	Maintenance	53,328
Holliston	4,200.00	1,000.00	4,000.00	Bituminous concrete	1,650
Hopkinton	1,400.00	2,000.00	2,000.00	Maintenance	70,224
Hopkinton	2,800.00	3,000.00	3,000.00	Bituminous macadam	1,775
Hudson	1,400.00	2,000.00	2,000.00	Maintenance	42,134
Hudson	3,800.00	2,700.00	2,700.00	Penolithic pavement	1,360
Hudson	8,800.00	8,500.00	6,000.00	Bituminous concrete	2,290
Lexington	2,100.00	3,000.00	3,000.00	Maintenance	61,829
Lexington	1,400.00	1,000.00	1,000.00	Penolithic pavement	250
Lexington	6,600.00	4,000.00	4,000.00	Penolithic pavement	1,810
Lincoln	1,000.00	1,000.00	1,000.00	Maintenance	36,960
Lincoln	2,100.00	1,500.00	1,500.00	Gravel and tar	1,900
Littleton	1,400.00	2,100.00	2,100.00	Maintenance	67,742
Littleton	2,100.00	1,500.00	1,500.00	Gravel and tar	2,500
Lowell	21,000.00	14,000.00	7,000.00	Bituminous concrete	5,900
Malden	15,550.00	7,775.00	7,775.00	Bituminous concrete	2,155
Malden	12,450.00	6,225.00	6,225.00	Bituminous concrete	2,360
Marlborough	2,800.00	2,000.00	2,000.00	Bituminous macadam	675
Marlborough	8,400.00	6,000.00	6,000.00	Bituminous concrete	2,125
Maynard	1,500.00	1,500.00	1,500.00	Maintenance	36,274
Maynard	8,400.00	8,000.00	7,000.00	Bituminous concrete	3,250
Medford	25,000.00	22,500.00	20,000.00	Bituminous concrete	4,113
Natick	1,500.00	1,500.00	1,500.00	Maintenance	59,822
Natick	1,400.00	700.00	700.00	Drainage	—
Natick	10,500.00	8,000.00	7,500.00	Bituminous concrete	2,510
Newton	*8,000.00	12,000.00	*4,000.00	Grading and drainage	1,562

* Transferred from 1936 contract.

COUNTIES AND TOWNS	CONTRIBUTIONS			TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
	State	Town	County		
North Reading	1,400.00	2,000.00	2,000.00	Maintenance	52,272
North Reading	4,200.00	3,000.00	3,000.00	Bituminous concrete	2,600
Pepperell	2,800.00	4,000.00	4,000.00	Maintenance	83,424
Reading	1,000.00	1,000.00	1,000.00	Maintenance	33,634
Reading	5,600.00	4,000.00	4,000.00	Penolithic pavement	1,650
Reading	5,600.00	4,000.00	4,000.00	Bituminous concrete	1,625
Sherborn	1,800.00	2,250.00	2,250.00	Maintenance	74,448
Shirley	1,400.00	2,000.00	2,000.00	Maintenance	51,216
Shirley	2,141.00	1,529.50	1,529.50	Gravel and tar	2,568
Shirley	3,459.00	2,470.50	2,470.50	Gravel and cut-back asphalt	4,000
Stoneham	13,100.00	9,333.00	7,000.00	Penolithic pavement	3,170
Stoneham	1,000.00	1,000.00	1,000.00	Maintenance	35,587
Stow	1,400.00	2,000.00	2,000.00	Maintenance	41,184
Sudbury	1,400.00	2,000.00	2,000.00	Maintenance	81,840
Sudbury	2,800.00	2,000.00	2,000.00	Gravel and tar	3,300
Tewksbury	1,400.00	2,500.00	2,500.00	Maintenance	55,440
Tewksbury	1,400.00	1,000.00	1,000.00	Gravel and tar	1,500
Tewksbury	3,500.00	2,500.00	2,500.00	Gravel and tar	3,600
Tewksbury	700.00	425.00	425.00	Gravel	400
Tewksbury	700.00	400.00	400.00	Gravel and tar	700
Townsend	1,400.00	2,000.00	2,000.00	Maintenance	41,554
Townsend	1,400.00	1,000.00	1,000.00	Gravel and tar	2,000
Townsend	1,400.00	1,000.00	1,000.00	Gravel and tar	1,800
Tyngsborough	1,800.00	2,500.00	2,500.00	Maintenance	86,592
Tyngsborough	1,400.00	1,000.00	1,400.00	Gravel and tar	2,000
Tyngsborough	1,400.00	1,000.00	1,400.00	Gravel and tar	1,300
Wakefield	1,400.00	1,700.00	2,000.00	Maintenance	42,504
Wakefield	8,900.00	6,675.00	4,450.00	Bituminous concrete	3,500
Wakefield	2,300.00	1,150.00	1,150.00	Bituminous concrete	525
Waltham	5,600.00	4,000.00	4,000.00	Bituminous macadam	3,450
Waltham	12,600.00	8,400.00	6,000.00	Bituminous concrete	3,745
Watertown	5,309.75	3,792.13	3,792.13	Bituminous concrete	2,090
Watertown	6,991.21	8,307.39	5,307.39	Bituminous concrete	1,860
Wayland	6,300.00	6,000.00	6,000.00	Bituminous concrete	1,320
Wayland				Gravel and tar	3,273
Wayland	1,800.00	2,500.00	2,500.00	Maintenance	52,800
Westford	2,100.00	3,000.00	3,000.00	Maintenance	143,088
Westford	1,400.00	1,000.00	1,000.00	Gravel and tar (widening)	3,000
Wilmington	1,200.00	1,200.00	1,200.00	Maintenance	40,762
Wilmington	2,800.00	2,000.00	2,000.00	Gravel and tar	1,900
Winchester	3,500.00	3,000.00	3,000.00	Bituminous concrete	860
Winchester	10,500.00	7,000.00	5,000.00	Bituminous concrete	3,260
Woburn	14,000.00	7,000.00	7,000.00	Bituminous concrete	3,800
Woburn	21,000.00	10,500.00	10,500.00	Bituminous concrete	4,650
<i>Nantucket County</i>					
Nantucket	\$1,000.00	\$2,000.00	—	Maintenance	10,800
<i>Norfolk County</i>					
Avon	\$1,300.00	\$1,300.00	\$1,300.00	Maintenance	29,198
Bellingham	1,400.00	500.00	1,000.00	Maintenance	62,040
Bellingham	1,400.00	2,000.00	—	Grading and drainage	2,650
Braintree	13,000.00	13,000.00	—	Grading and drainage	2,489
Brookline	3,500.00	3,500.00	—	Bituminous concrete	2,118
Canton	1,000.00	1,000.00	—	Maintenance	38,174
Dedham	7,000.00	10,000.00	—	Bituminous concrete	2,185
Dedham	1,000.00	1,000.00	1,000.00	Maintenance	5,174
Dover	600.00	600.00	600.00	Maintenance	2,700
Foxborough	3,500.00	3,500.00	—	Gravel and tar	3,400
Foxborough	1,000.00	1,000.00	1,000.00	Maintenance	5,000
Franklin	4,600.00	6,500.00	—	Gravel and tar	4,540
Franklin	1,500.00	1,500.00	1,500.00	Maintenance	98,261
Holbrook	500.00	500.00	500.00	Maintenance	29,462
Medway	1,500.00	1,500.00	1,500.00	Maintenance	61,618
Medway	1,800.00	2,500.00	—	Gravel and tar	2,400
Millis	1,000.00	1,000.00	1,000.00	Maintenance	66,739
Milton	500.00	500.00	500.00	Maintenance	500
Needham	500.00	500.00	500.00	Maintenance	42,768
Norfolk	1,500.00	1,500.00	1,500.00	Maintenance	63,571
Norwood	24,500.00	24,500.00	—	Bituminous concrete	3,200
Norwood	300.00	600.00	300.00	Repairs	185
Plainville	500.00	500.00	500.00	Maintenance	12,672
Quincy	21,000.00	21,000.00	—	Bituminous concrete	4,900
Randolph	1,500.00	1,500.00	1,500.00	Maintenance	27,456
Sharon	1,000.00	1,000.00	1,000.00	Maintenance	46,464
Sharon	3,500.00	5,000.00	—	Bituminous concrete	2,080
Stoughton	1,000.00	1,000.00	1,000.00	Maintenance	29,146
Walpole	1,000.00	1,000.00	1,000.00	Maintenance	53,750
Walpole	7,200.00	7,200.00	—	Bituminous concrete	2,950
Walpole	3,500.00	3,500.00	—	Penolithic pavement	1,000
Wellesley	5,500.00	5,500.00	—	Bituminous concrete	5,000
sq. yds.					
Westwood	1,500.00	1,500.00	1,500.00	Maintenance	21,331
Westwood	10,500.00	10,500.00	—	Bituminous macadam	3,800
Westwood	300.00	600.00	300.00	Repairs	165
Weymouth	14,000.00	14,000.00	—	Bituminous concrete	2,882

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
	State	Town			
Wrentham	1,000.00	1,000.00	1,000.00	Maintenance	24,974
Wrentham	1,000.00	1,000.00	—	Gravel and tar	550
Wrentham	2,800.00	2,800.00	—	Gravel and tar	1,700
<i>Plymouth County</i>					
Abington	\$7,000.00	\$4,500.00	\$3,500.00	Bituminous concrete	1,695
Brockton	6,300.00	6,300.00	—	Bituminous macadam	5,800
Brockton	21,500.00	21,500.00	—	Bituminous macadam	4,861
Carver	2,800.00	1,400.00	1,400.00	Gravel mixed in place with tar	4,100
Halifax	1,700.00	850.00	850.00	Gravel and tar	3,300
Hanover	4,200.00	2,100.00	2,100.00	Gravel and tar	1,750
Hanson	7,000.00	3,500.00	3,500.00	Concrete extensions to stone arch bridge	—
Kingston	5,600.00	2,800.00	2,800.00	Bituminous concrete	1,450
Lakeville	1,400.00	700.00	700.00	Gravel mixed in place with tar	4,300
Marion	3,000.00	1,500.00	1,500.00	Gravel mixed in place with emulsion	1,600
Marshfield	7,000.00	3,500.00	3,500.00	Penolithic pavement	850
Mattapoisett	3,500.00	1,750.00	1,750.00	Bituminous macadam	2,500
Pembroke	3,500.00	1,750.00	1,750.00	Bituminous concrete	950
Pembroke	1,000.00	750.00	500.00	Gravel mixed in place with tar	5,050
Plymouth	5,300.00	2,650.00	2,650.00	Gravel mixed in place with tar	2,450
Plympton	7,000.00	350.00	3,150.00	Gravel mixed in place with tar	6,250
Rochester	2,800.00	1,400.00	1,400.00	Gravel and tar	4,600
Rochester	1,500.00	750.00	750.00	Gravel mixed in place with cut-back asphalt	2,500
Rockland	7,000.00	3,500.00	3,500.00	Bituminous concrete	1,545
Wareham	5,600.00	2,800.00	2,800.00	Drainage	—
West Bridgewater	1,400.00	700.00	700.00	Gravel and tar	750
West Bridgewater	3,500.00	1,750.00	1,750.00	Bituminous concrete	1,000
Whitman	14,000.00	7,000.00	7,000.00	Bituminous concrete	3,080
Whitman	6,000.00	—	3,000.00	Bituminous concrete	880
<i>Worcester County</i>					
Ashburnham	\$1,400.00	\$1,000.00	\$2,000.00	Gravel mixed in place with tar	1,250
Ashburnham	1,500.00	1,000.00	1,750.00	Maintenance	34,950
Athol	1,500.00	1,500.00	1,500.00	Maintenance	44,565
Athol	8,400.00	6,000.00	6,000.00	Bituminous concrete	1,475
Athol	2,800.00	2,000.00	2,000.00	Gravel mixed in place with tar	3,550
Auburn	300.00	300.00	300.00	Maintenance	13,140
Auburn	7,000.00	5,000.00	5,000.00	Broken stone mixed in place with cut-back asphalt	3,533
Barre	1,000.00	1,000.00	1,000.00	Maintenance	42,800
Barre	7,000.00	5,000.00	5,000.00	Bridge and approaches	—
Berlin	1,800.00	1,000.00	2,500.00	Gravel mixed in place with tar	800
Berlin	1,400.00	1,000.00	1,000.00	Maintenance	53,130
Blackstone	1,000.00	1,000.00	1,000.00	Gravel mixed in place with tar	1,494
Blackstone	2,800.00	2,000.00	500.00	Maintenance	47,892
Blackstone	4,200.00	3,000.00	3,000.00	Grading and drainage	2,550
Bolton	1,500.00	1,000.00	1,500.00	Trap rock mixed in place with tar	6,040
Bolton	2,100.00	1,050.00	1,050.00	Maintenance	47,448
Boylston	1,400.00	700.00	1,400.00	Grading	1,800
Brookfield	1,400.00	700.00	1,400.00	Maintenance	51,054
Brookfield	1,500.00	750.00	750.00	Maintenance	26,280
Brookfield	1,400.00	1,000.00	1,000.00	Repairs	1,400
Charlton	1,500.00	800.00	1,600.00	Gravel mixed in place with tar	312
Charlton	2,300.00	1,500.00	1,800.00	Bituminous concrete	88
Charlton	1,600.00	1,000.00	1,300.00	Bituminous macadam	125
Clinton	300.00	300.00	300.00	Maintenance	44,750
Clinton	8,400.00	6,000.00	6,000.00	Gravel mixed in place with tar	1,900
Dana	1,800.00	1,000.00	2,500.00	Grading	4,849
Dana	1,500.00	500.00	1,500.00	Maintenance	17,400
Douglas	500.00	500.00	500.00	Bituminous macadam	3,676
Douglas	5,000.00	2,500.00	2,500.00	Maintenance	75,140
Dudley	300.00	300.00	300.00	Gravel and tar	2,050
Dudley	4,200.00	2,100.00	2,100.00	Maintenance	24,000
				Gravel mixed in place with asphalt	1,485
				Grading	1,200
				Maintenance	27,410
				Gravel mixed in place with asphalt	3,000

CONTRIBUTIONS

LENGTH CON-
TRACTED FOR
(FEET)

COUNTIES AND TOWNS	State	Town	County	TYPE OF ROAD OR NATURE OF WORK	
Dudley	1,400.00	1,400.00	1,400.00	Gravel mixed in place with tar	200
East Brookfield	600.00	600.00	600.00	Maintenance	24,935
East Brookfield	2,100.00	1,400.00	1,400.00	Gravel mixed in place with tar	2,200
East Brookfield	1,800.00	1,250.00	1,250.00	Bridge and approaches	—
Fitchburg	17,500.00	12,500.00	12,500.00	Bituminous macadam	2,595
Gardner	400.00	400.00	400.00	Maintenance	13,250
Gardner	7,000.00	3,500.00	3,500.00	Bituminous macadam	3,150
Grafton	2,800.00	3,000.00	2,000.00	Broken stone and asphalt emulsion	1,300
Grafton	1,300.00	650.00	650.00	Bituminous macadam	183
Hardwick	1,000.00	1,300.00	1,000.00	Maintenance	52,910
Harvard	1,000.00	1,000.00	1,000.00	Maintenance	46,800
Harvard	5,000.00	1,100.00	4,000.00	Grading and drainage	2,500
Holden	1,000.00	1,000.00	1,000.00	Maintenance	48,993
Holden	5,700.00	2,850.00	2,850.00	Bridge and approaches	—
Holden	3,500.00	2,500.00	2,500.00	Gravel mixed in place with tar	2,300
Hubbardston	1,700.00	1,200.00	2,400.00	Maintenance	66,220
Hubbardston	2,800.00	1,000.00	4,000.00	Gravel mixed in place with tar	2,246
Leicester	900.00	1,200.00	1,200.00	Maintenance	49,700
Leicester	4,900.00	5,000.00	5,000.00	Broken stone mixed in place with asphalt	2,350
Lunenburg	1,500.00	1,500.00	1,500.00	Maintenance	51,060
Lunenburg	2,100.00	1,500.00	1,500.00	Gravel mixed in place with tar	1,550
Mendon	1,000.00	1,000.00	1,000.00	Maintenance	39,684
Mendon	1,600.00	1,100.00	1,100.00	Gravel mixed in place with tar	1,710
Mendon	1,400.00	1,000.00	1,000.00	Gravel mixed in place with tar	2,400
Milford	500.00	500.00	500.00	Maintenance	22,940
Milford	10,500.00	8,250.00	8,250.00	Bituminous concrete	3,725
Millbury	600.00	600.00	600.00	Maintenance	29,729
Millbury	6,423.48	4,588.26	4,588.26	Bituminous concrete	1,600
Millbury	576.52	1,411.74	1,411.74	Grading	1,750
Millville	1,500.00	—	1,500.00	Maintenance	16,211
New Braintree	1,000.00	500.00	1,000.00	Maintenance	51,063
New Braintree	1,400.00	1,000.00	1,000.00	Gravel mixed in place with tar	450
North Brookfield	4,600.00	2,900.00	2,900.00	Gravel mixed in place with tar	2,650
North Brookfield	500.00	500.00	500.00	Maintenance	30,815
Northborough	300.00	300.00	300.00	Maintenance	18,152
Northbridge	500.00	500.00	500.00	Maintenance	35,535
Northbridge	3,500.00	2,500.00	2,500.00	Gravel mixed in place with asphaltic oil	2,050
Oakham	1,300.00	1,100.00	1,300.00	Grading	1,050
Oakham	3,500.00	2,000.00	2,000.00	Maintenance	44,450
Oxford	1,000.00	1,000.00	1,000.00	Gravel mixed in place with asphalt	2,400
Oxford	1,500.00	500.00	500.00	Repairs and oiling	12,713
Paxton	1,500.00	800.00	1,600.00	Bridge repairs	—
Paxton	3,200.00	1,500.00	3,000.00	Maintenance	41,100
Petersham	1,500.00	1,500.00	1,500.00	Gravel mixed in place with tar	3,400
Phillipston	1,500.00	1,000.00	1,500.00	Maintenance	39,813
Phillipston	2,100.00	1,000.00	2,000.00	Maintenance	49,154
Princeton	1,600.00	1,500.00	2,250.00	Gravel mixed in place with tar	1,450
Princeton	2,800.00	1,400.00	1,400.00	Maintenance	95,120
Princeton	2,800.00	1,400.00	1,400.00	Gravel mixed in place with tar	1,750
Royalston	1,900.00	1,300.00	2,300.00	Gravel mixed in place with tar	2,900
Royalston	1,250.00	500.00	750.00	Oiling	850
Royalston	1,250.00	500.00	750.00	Maintenance	53,000
Rutland	1,500.00	1,600.00	2,200.00	Gravel and tar	1,650
Rutland	2,100.00	1,500.00	1,500.00	Oiling	1,300
Rutland	2,100.00	1,500.00	1,500.00	Repairs and drainage	21,200
Shrewshury	1,500.00	1,500.00	1,500.00	Maintenance	60,300
Southborough	600.00	600.00	600.00	Gravel mixed in place with tar	1,750
Southborough	2,100.00	1,000.00	2,000.00	Gravel mixed in place with tar	2,100
Southbridge	750.00	750.00	750.00	Oiling	850
Southbridge	20,000.00	10,000.00	10,000.00	Maintenance	53,000
Spencer	1,000.00	1,000.00	1,000.00	Gravel and tar	1,650
Spencer	3,500.00	2,500.00	2,500.00	Oiling	1,300
Sterling	2,000.00	2,000.00	2,900.00	Repairs and drainage	21,200
				Maintenance	60,300
				Gravel mixed in place with tar	1,750
				Gravel mixed in place with tar	2,100
				Maintenance	35,594
				Maintenance	25,460
				Broken stone and asphalt emulsion	1,009
				Maintenance	27,400
				Bridge	—
				Maintenance	44,000
				Bituminous macadam	730
				Maintenance	93,661

COUNTIES AND TOWNS	CONTRIBUTIONS			TYPE OF ROAD OR NATURE OF WORK	LENGTH CON- TRACTED FOR (FEET)
	State	Town	County		
Sterling	1,900.00	1,000.00	1,750.00	Gravel mixed in place with asphaltic oil	1,450
Sterling	3,900.00	2,000.00	2,000.00	Broken stone mixed in place with asphalt	1,300
Sturbridge	350.00	350.00	350.00	Gravel and asphalt	770
Sturbridge	2,500.00	1,200.00	2,400.00	Maintenance	18,150
Sutton	1,000.00	1,000.00	1,000.00	Gravel mixed in place with tar	2,300
Sutton	2,800.00	2,000.00	2,000.00	Maintenance	50,892
Sutton	2,800.00	2,000.00	2,000.00	Gravel mixed in place with asphalt	1,600
Templeton	1,500.00	1,500.00	1,500.00	Gravel mixed in place with asphalt	3,750
Templeton	4,200.00	3,000.00	3,000.00	Maintenance	45,460
Upton	700.00	700.00	700.00	Gravel mixed in place with asphalt	4,200
Upton	2,800.00	2,000.00	2,000.00	Maintenance	25,450
Uxbridge	1,000.00	1,000.00	1,000.00	Gravel mixed in place with tar	1,450
Uxbridge	5,600.00	4,000.00	4,000.00	Maintenance	45,510
Uxbridge	5,600.00	4,000.00	4,000.00	Broken stone mixed in place with asphalt	2,800
Warren	500.00	500.00	500.00	Bituminous concrete	3,700
Webster	4,900.00	3,500.00	3,500.00	Maintenance	17,100
West Boylston . . .	1,050.00	840.00	1,500.00	Bituminous macadam	2,600
West Boylston . . .	1,980.00	1,120.00	1,300.00	Maintenance	51,400
West Boylston . . .	1,800.00	1,000.00	1,500.00	Bituminous macadam	2,000
West Brookfield . .	1,000.00	1,000.00	1,000.00	Gravel mixed in place with tar	1,150
West Brookfield . .	7,000.00	2,000.00	8,000.00	Maintenance	74,205
Westborough	900.00	900.00	900.00	Bituminous concrete	2,449
Westborough	8,900.00	5,950.00	5,950.00	Maintenance	51,700
Westminster	1,400.00	1,000.00	2,000.00	Bituminous macadam	4,030
Westminster	3,500.00	2,000.00	3,000.00	Maintenance	66,474
Winchendon	500.00	500.00	500.00	Gravel mixed in place with asphalt	1,900
Worcester	32,000.00	16,000.00	16,000.00	Maintenance	19,528
Worcester	23,000.00	19,000.00	19,000.00	Bituminous concrete	5,985
Worcester				Bituminous concrete	3,813

EXPENDITURES FOR CONSTRUCTION OF TOWN AND COUNTY WAYS

(Section 34, Chapter 90, General Laws, Ter Ed.)

The expenditures during the year in various Counties were:

Barnstable	\$140,377.56	Hampden	198,904.62
Berkshire	190,838.69	Hampshire	135,364.20
Bristol	132,894.97	Middlesex	562,351.88
Dukes	7,715.58	Norfolk	89,960.30
Essex	325,582.64	Plymouth	247,483.63
Franklin	165,007.34	Worcester	511,954.18

Total	\$2,708,435.59
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Details of the foregoing expenditures follow:

Barnstable County.—Barnstable, \$16,684.15; Bourne, \$1,059.32; Brewster, \$2,129.45; Chatham, \$11,354.74; Falmouth, \$96,636.93; Harwich, \$3,612.15; Orleans, \$1,312.90; Wellfleet, \$4,715.57; Yarmouth, \$2,872.36.

Berkshire County.—Adams, \$6,527.09; Alford, \$1,073.76; Becket, \$6,323.46; Cheshire, \$2,808.53; Clarksburg, \$1,659.46; Dalton, \$15,788.65; Egremont, \$1,765.39; Florida, \$3,571.12; Gt. Barrington, \$9,317.51; Hancock, \$4,059.79; Hinsdale, \$1,711.31; Lanesborough, \$10,048.99; Lee, \$17,982.55; Lenox, \$8,228.96; Monterey, \$5,943.39; Mt. Washington, \$3,201.06; New Ashford, \$2,106.40; New Marlborough, \$5,463.87; No. Adams, \$13,516.67; Otis, \$5,575.72; Peru, \$1,790.32; Pittsfield, \$18,227.05; Richmond, \$2,229.36; Sandisfield, \$4,020.32; Savoy, \$1,914.91; Sheffield, \$5,350.33; Stockbridge, \$2,589.34; Tyringham, \$4,302.26; Washington, \$6,288.76; W. Stockbridge, \$6,412.23; Williamstown, \$9,252.91; Windsor, \$1,787.22.

Bristol County.—Acushnet, \$8,222.53; Attleboro, \$28,766.69; Berkley, \$3,421.92; Dighton, \$4,716.29; Easton, \$4,742.00; Fairhaven, \$989.37;

Fall River, \$26,634.12; Freetown, \$893.62; Mansfield, \$971.62; No. Attleborough, \$5,936.21; Norton, \$638.30; Raynham, \$638.30; Rehoboth, \$8,325.08; Taunton, \$16,186.16; Westport, \$21,812.76.

Dukes County.—Edgartown, \$2,419.59; Tisbury, \$3,700.23; W. Tisbury, \$1,595.76.

Essex County.—Amesbury, \$1,276.27; Andover, \$13,150.28; Beverly, \$8,387.29; Boxford, \$14,744.78; Danvers, \$13,074.35; Essex, \$1,276.60; Georgetown, \$1,276.60; Gloucester, \$7,310.80; Groveland, \$510.64; Hamilton, \$10,637.35; Haverhill, \$54,519.27; Ipswich, \$2,170.23; Lawrence, \$13,038.35; Lynn, \$20,652.15; Lynnfield, \$10,317.52; Manchester, \$6,351.11; Marblehead, \$21,357.64; Merrimac, \$1,914.88; Methuen, \$8,546.49; Middleton, \$43,987.45; Newbury, \$3,180.10; No. Andover, \$6,445.79; Peabody, \$13,609.17; Rockport, \$2,508.53; Rowley, \$3,702.16; Salisbury, \$7,895.65; Saugus, \$8,890.90; Swampscott, \$2,382.12; Topsfield, \$7,865.40; Wenham, \$8,655.07; W. Newbury, \$5,947.00.

Franklin County.—Ashfield, \$4,268.94; Buckland, \$6,893.66; Conway, \$2,680.86; Erving, \$1,787.25; Gill, \$3,444.28; Hawley, \$3,574.49; Heath, \$1,787.25; Leverett, \$1,787.25; Leyden, \$3,574.49; Monroe, \$1,787.25; Montague, \$6,441.67; New Salem, \$96,157.75; Northfield, \$989.37; Orange, \$1,353.20; Rowe, \$5,553.23; Shelburne, \$1,787.25; Sunderland, \$9,343.33; Warwick, \$6,083.02; Wendell, \$5,712.80.

Hampden County.—Agawam, \$15,652.51; Blandford, \$6,023.30; Brimfield, \$5,003.73; Chester, \$10,261.66; Chicopee, \$14,871.59; E. Longmeadow, \$10,117.09; Granville, \$5,968.12; Hampden, \$4,212.80; Holland, \$3,162.12; Longmeadow, \$1,150.97; Ludlow, \$5,339.95; Monson, \$5,402.60; Montgomery, \$6,373.97; Palmer, \$16,731.17; Russell, \$900.31; Southwick, \$5,361.74; Springfield, \$27,631.39; Tolland, \$3,115.31; Wales, \$4,625.29; W. Springfield, \$23,978.73; Westfield, \$15,063.94; Wilbraham, \$7,956.28.

Hampshire County.—Amherst, \$9,109.28; Belchertown, \$14,289.87; Chesterfield, \$23,201.92; Cummington, \$4,228.82; Easthampton, \$4,695.80; Enfield, \$633.09; Goshen, \$3,108.53; Granby, \$3,574.47; Greenwich, \$1,276.60; Hadley, \$2,427.22; Huntington, \$6,861.75; Middlefield, \$15,842.34; Northampton, \$10,927.34; Pelham, \$13,383.73; Plainfield, \$4,037.72; South Hadley, \$6,462.78; Southampton, \$1,276.60; Ware, \$4,468.11; Westhampton, \$638.30; Williamsburg, \$315.41; Worthington, \$4,604.52.

Middlesex County.—Acton, \$5,439.22; Arlington, \$4,205.65; Ashby, \$2,023.39; Ashland, \$3,510.57; Ayer, \$3,702.00; Bedford, \$12,320.36; Belmont, \$5,412.67; Billerica, \$21,383.42; Boxborough, \$1,973.55; Burlington, \$12,981.48; Cambridge, \$43,451.75; Carlisle, \$4,531.95; Chelmsford, \$4,361.97; Concord, \$3,585.13; Dracut, \$8,179.47; Dunstable, \$4,928.18; Framingham, \$21,350.76; Groton, \$15,497.08; Holliston, \$10,997.85; Hopkinton, \$5,067.32; Hudson, \$8,650.93; Lexington, \$8,203.85; Lincoln, \$4,884.95; Littleton, \$8,981.50; Malden, \$37,031.39; Marlborough, \$10,036.67; Maynard, \$7,230.97; Medford, \$16,921.28; Natick, \$19,828.10; Newton, \$28,685.53; No. Reading, \$12,660.70; Pepperell, \$4,326.22; Reading, \$14,038.54; Sherborn, \$4,209.53; Shirley, \$14,819.05; Stoneham, \$8,457.23; Stow, \$3,403.10; Sudbury, \$6,459.15; Tewksbury, \$7,457.44; Townsend, \$6,774.71; Tyngsborough, \$8,136.26; Wakefield, \$18,448.27; Waltham, \$11,870.25; Watertown, \$15,771.06; Wayland, \$11,010.54; Westford, \$8,285.30; Wilmington, \$5,360.86; Winchester, \$12,075.24; Woburn, \$43,411.49.

Norfolk County.—Avon, \$1,404.27; Bellingham, \$4,663.08; Brookline, \$7,291.58; Canton, \$370.22; Dedham, \$3,524.63; Dover, \$765.96; Foxborough, \$3,383.00; Franklin, \$10,327.34; Medway, \$5,234.07; Millis, \$2,042.57; Milton, \$351.07; Norfolk, \$1,914.78; Norwood, \$1,827.41; Plainville, \$553.19; Randolph, \$991.15; Sharon, \$1,148.94; Stoughton, \$201.48; Walpole, \$2,454.04; Wellesley, \$4,468.11; Westwood, \$4,395.73; Weymouth, \$21,222.07; Wrentham, \$11,425.61.

Plymouth County—Abington, \$10,687.92; Bridgewater, \$2,872.36; Brockton, \$11,586.88; Carver, \$3,574.39; Halifax, \$2,074.48; Hanover, \$3,829.82; Hanson, \$4,876.76; Hull, \$107,505.78; Kingston, \$5,276.38; Lakeville, \$1,787.25; Marion, \$3,995.98; Marshfield, \$12,725.49; Mattapoisett, \$6,300.38; Pembroke, \$4,212.79; Plymouth, \$6,383.02; Plympton, \$8,501.70; Rochester, \$4,595.78; Rockland, \$8,018.92; W. Bridgewater, \$3,106.68; Whitman, \$35,561.87.

Worcester County—Ashburnham, \$901.70; Athol, \$9,842.78; Auburn, \$10,143.18; Barre, \$8,940.56; Berlin, \$6,456.40; Blackstone, \$11,564.96; Bolton, \$5,626.52; Boylston, \$3,446.83; Brookfield, \$9,646.72; Charlton, \$5,331.88; Clinton, \$18,162.02; Dana, \$4,307.63; Douglas, \$1,876.20; Dudley, \$9,856.68; E. Brookfield, \$13,617.23; Fitchburg, \$14,530.72; Gardner, \$4,319.93; Grafton, \$6,439.36; Hardwick, \$6,223.19; Harvard, \$10,173.40; Holden, \$3,806.09; Hubbardston, \$4,684.09; Leicester, \$2,713.21; Leominster, \$4,739.58; Lunenburg, \$3,015.17; Mendon, \$7,118.67; Milford, \$28,927.69; Millbury, \$9,564.93; New Braintree, \$2,322.10; No. Brookfield, \$12,948.91; Northborough, \$287.07; Northbridge, \$11,169.28; Oakham, \$2,999.88; Paxton, \$5,043.79; Petersham, \$34,610.87; Phillipsston, \$580.75; Princeton, \$10,576.41; Royalston, \$5,816.45; Rutland, \$8,379.65; Shrewsbury, \$1,037.88; Southborough, \$3,045.62; Southbridge, \$17,568.71; Spencer, \$12,135.91; Sterling, \$7,687.75; Sturbridge, \$3,948.54; Sutton, \$12,300.52; Templeton, \$9,585.53; Upton, \$3,906.40; Uxbridge, \$14,245.32; Warren, \$471.51; Webster, \$10,485.49; W. Boylston, \$10,834.11; W. Brookfield, \$10,769.21; Westborough, \$765.90; Westminster, \$10,280.68; Winchendon, \$861.71; Worcester, \$61,310.37.

REPAIR AND IMPROVEMENT OF PUBLIC WAYS, EXCLUSIVE OF STATE HIGHWAYS, IN CERTAIN TOWNS

(Sections 26 to 29 and 31 of Chapter 81 of the General Laws, (Ter. Ed.), as amended with reference to Section 26 by Chapter 366 of the Acts of 1934)

During the year the Department contracted for work to be done in the towns named in the following table, which also shows the road mileage in the towns and the allotments or contributions by the State and towns:—

Counties and Towns	Miles of Road	Allotment	
		State	Town
<i>Barnstable County</i>			
Brewster	40	\$6,000 00	\$5,000 00
Dennis	78	11,700 00	7,800 00
Eastham	42	6,300 00	3,150 00
Mashpee	27	4,050 00	2,025 00
Sandwich	67	10,050 00	6,700 00
Truro	30	4,500 00	3,750 00
Wellfleet	36	5,400 00	4,500 00
<i>Berkshire County</i>			
Alford	19	\$2,850 00	\$760 00
Becket	58	8,700 00	2,320 00
Cheshire	42	6,300 00	3,150 00
Clarksburg	14	2,100 00	2,100 00
Egremont	32	4,800 00	2,400 00
Florida	43	6,450 00	3,225 00
Hancock	30	4,500 00	1,200 00
Hinsdale	35	5,250 00	2,625 00
Lanesborough	43	6,450 00	3,225 00
Monterey	51	7,650 00	2,040 00
Mt. Washington	20	3,000 00	500 00
New Ashford	11	1,650 00	275 00

Counties and Towns	Miles of Road	Allotment	
		State	Town
New Marlborough	85	12,750 00	3,400 00
Otis	41	6,150 00	1,640 00
Peru ¹	37	5,550 00	555 00
Richmond	32	4,800 00	2,400 00
Sandisfield	79	11,850 00	1,185 00
Savoy	56	8,400 00	840 00
Sheffield	78	11,700 00	3,900 00
Tyringham	25	3,750 00	1,250 00
Washington	51	7,650 00	765 00
West Stockbridge	36	5,400 00	3,600 00
Windsor	65	9,750 00	975 00
<i>Bristol County</i>			
Berkley	42	\$6,300 00	\$2,100 00
Freetown	47	7,050 00	3,525 00
Norton	57	8,550 00	5,700 00
Raynham	45	6,750 00	4,500 00
Rehoboth	109	16,350 00	8,175 00
Swansea	61	9,105 00	9,150 00
<i>Dukes County</i>			
Chilmark	14	\$2,100 00	\$1,750 00
West Tisbury	13	1,950 00	1,950 00
<i>Essex County</i>			
Boxford	53	\$7,950 00	3,975 00
Georgetown	35	5,250 00	4,375 00
Groveland	30	4,500 00	4,500 00
Merrimac	31	4,650 00	3,875 00
Middleton	30	4,500 00	4,500 00
Newbury	38	5,700 00	4,750 00
Rowley	31	4,650 00	3,875 00
West Newbury	37	5,550 00	3,700 00
<i>Franklin County</i>			
Ashfield	80	\$12,000 00	\$3,200 00
Bernardston	40	6,000 00	3,000 00
Buckland	45	6,750 00	6,750 00
Charlemont	49	7,350 00	3,675 00
Colrain	85	12,750 00	4,250 00
Conway	72	10,800 00	2,880 00
Deerfield	75	11,250 00	9,375 00
Gill	34	5,100 00	2,550 00
Hawley	49	7,350 00	735 00
Heath	53	7,950 00	795 00
Leverett	38	5,700 00	1,520 00
Leyden	39	5,850 00	585 00
Monroe	18	2,700 00	2,700 00
New Salem	65	9,750 00	975 00
Northfield	66	9,900 00	4,950 00
Rowe	40	6,000 00	1,600 00
Shelburne	49	7,350 00	6,125 00
Shutesbury	38	5,700 00	950 00
Sunderland	34	5,100 00	2,550 00
Warwick	56	8,400 00	840 00
Wendell	48	7,200 00	2,400 00
Whately	40	6,000 00	3,000 00

Counties and Towns	Miles of Road	State Allotment	Town
<i>Hampden County</i>			
Blandford	75	\$11,250 00	\$1,875 00
Brimfield	60	9,000 00	2,400 00
Chester	68	10,200 00	3,400 00
Granville	73	10,950 00	5,475 00
Hampden	34	5,100 00	2,550 00
Holland	32	4,800 00	480 00
Monson	101	15,150 00	10,100 00
Montgomery	27	4,050 00	675 00
Southwick	50	7,500 00	5,000 00
Tolland	40	6,000 00	600 00
Wales	25	3,750 00	1,000 00
Wilbraham	44	6,600 00	6,600 00
<i>Hampshire County</i>			
Belchertown	109	\$16,350 00	\$4,360 00
Chesterfield	59	8,850 00	1,475 00
Cummington	49	7,350 00	1,225 00
Enfield	35	5,250 00	1,400 00
Goshen	29	4,350 00	725 00
Granby	48	7,200 00	2,400 00
Greenwich	39	5,850 00	1,560 00
Hadley	58	8,700 00	7,250 00
Hatfield	46	6,900 00	5,750 00
Huntington	41	6,150 00	3,075 00
Middlefield	41	6,150 00	615 00
Pelham	31	4,650 00	2,325 00
Plainfield	49	7,350 00	735 00
Prescott	39	5,850 00	585 00
Southampton	56	8,400 00	2,240 00
Westhampton	50	7,500 00	750 00
Williamsburg	44	6,600 00	3,300 00
Worthington	68	10,200 00	1,700 00
<i>Middlesex County</i>			
Acton	59	\$8,850 00	8,850 00
Ashby	56	8,400 00	2,800 00
Ashland	38	5,700 00	5,700 00
Bedford	36	5,400 00	5,400 00
Boxborough	23	3,450 00	920 00
Burlington	38	5,700 00	5,700 00
Carlisle	42	6,300 00	3,150 00
Dracut	63	9,450 00	9,450 00
Dunstable	37	5,550 00	925 00
Holliston	50	7,500 00	7,500 00
Hopkinton	66	9,900 00	6,600 00
Littleton	42	6,300 00	6,300 00
North Reading	35	5,250 00	5,250 00
Pepperell	69	10,350 00	6,900 00
Sherborn	43	6,450 00	5,375 00
Shirley	46	6,900 00	4,600 00
Stow	43	6,450 00	3,225 00
Sudbury	64	9,600 00	6,400 00
Tewksbury	60	9,000 00	9,000 00
Townsend	70	10,500 00	7,000 00
Tyngsborough	41	6,150 00	4,100 00
Westford	85	12,750 00	10,625 00

Counties and Towns	Miles of Road	State Allotment	Town
<i>Norfolk County</i>			
Bellingham	44	\$6,600 00	\$6,600 00
Medfield	41	6,150 00	6,150 00
Medway	45	6,750 00	6,750 00
Millis	42	6,300 00	6,300 00
Norfolk	42	6,300 00	4,200 00
Plainville	32	4,800 00	4,000 00
<i>Plymouth County</i>			
Carver	67	\$10,050 00	\$6,700 00
Halifax	34	5,100 00	3,400 00
Hanson	36	5,400 00	5,400 00
Lakeville	43	6,450 00	3,225 00
Norwell	47	7,050 00	4,700 00
Pembroke	49	7,350 00	6,125 00
Plympton	30	4,500 00	2,250 00
Rochester	50	7,500 00	3,750 00
<i>Worcester County</i>			
Ashburnham	75	\$11,250 00	\$5,625 00
Barre	110	16,500 00	8,250 00
Berlin	39	5,850 00	2,925 00
Bolton	53	7,950 00	2,650 00
Boylston	40	6,000 00	3,000 00
Brookfield	37	5,550 00	3,700 00
Charlton	110	16,500 00	4,400 00
Dana	43	6,450 00	1,075 00
Douglas	70	10,500 00	5,250 00
Dudley	63	9,450 00	7,875 00
East Brookfield	19	2,850 00	2,375 00
Grafton	68	10,200 00	10,200 00
Hardwick	96	14,400 00	4,800 00
Harvard	56	8,400 00	5,600 00
Holden	77	11,550 00	7,700 00
Hubbardston	75	11,250 00	1,875 00
Lancaster	58	8,700 00	7,250 00
Leicester	66	9,900 00	8,250 00
Lunenburg	66	9,900 00	4,950 00
Mendon	36	5,400 00	3,600 00
Millville	16	2,400 00	2,400 00
New Braintree	49	7,350 00	1,225 00
North Brookfield	69	10,350 00	6,900 00
Northborough	47	7,050 00	5,875 00
Oakham	45	6,750 00	1,125 00
Oxford	66	9,900 00	8,250 00
Paxton	29	4,350 00	2,175 00
Petersham	70	10,500 00	3,500 00
Phillipston	41	6,150 00	1,025 00
Princeton	73	10,950 00	2,920 00
Royalston	67	10,050 00	1,675 00
Rutland	68	10,200 00	3,400 00
Southborough	46	6,900 00	6,900 00
Spencer	101	15,150 00	12,625 00
Sterling	73	10,950 00	5,475 00
Sturbridge	70	10,500 00	3,500 00
Sutton	84	12,600 00	4,200 00
Templeton	63	9,450 00	7,875 00

Counties and Towns	Miles of Road	Allotment	
		State	Town
Upton	60	9,000 00	4,500 00
Warren	71	10,650 00	7,100 00
West Boylston	37	5,550 00	5,550 00
West Brookfield	53	7,950 00	3,975 00
Westborough	62	9,300 00	9,300 00
Westminster	78	11,700 00	3,900 00

EXPENDITURES FOR REPAIR AND IMPROVEMENT OF PUBLIC WAYS

The expenditures during the year in various counties were:—

Barnstable	\$51,722.70	Hampden	\$100,179.29
Berkshire	158,362.43	Hampshire	142,551.89
Bristol	32,582.06	Middlesex	165,347.77
Dukes	4,380.20	Norfolk	23,486.58
Essex	40,639.86	Plymouth	60,722.24
Franklin	179,189.74	Worcester	428,284.91
Total			\$1,387,449.67

Details of the foregoing expenditures follow:—

Barnstable County.—Brewster, \$6,651.01; Dennis, \$12,268.86; Eastham, \$6,681.15; Mashpee, \$4,427.55; Sandwich, \$11,397.12; Truro, \$4,-840.58; Wellfleet, \$5,456.43.

Berkshire County.—Alford, \$3,221.77; Becket, \$9,446.40; Cheshire, \$7,260.37; Clarksburg, \$1,857.59; Egremont, \$5,324.58; Florida, \$6,-065.72; Hancock, \$5,279.53; Hinsdale, \$4,179.30; Lanesborough, \$7,-406.01; Monterey, \$9,344.27; Mt. Washington, \$3,456.59; New Ashford, \$1,896.42; New Marlborough, \$12,625.62; Otis, \$7,337.15; Peru, \$5,635.02; Richmond, \$5,258.49; Sandisfield, \$11,362.47; Savoy, \$9,085.41; Sheffield, \$12,407.75; Tyringham, \$3,629.00; Washington, \$9,643.32; West Stockbridge, \$5,818.02; Windsor, \$10,821.63.

Bristol County.—Berkley, \$2,528.03; Freetown, \$5,048.16; Norton, \$9,201.64; Raynham, \$3,238.33; Rehoboth, \$9,373.84; Swansea, \$3,192.06.

Dukes County.—Chilmark, \$2,227.77; West Tisbury, \$2,152.43.

Essex County.—Boxford, \$8,167.87; Georgetown, \$4,609.09; Groveland, \$3,306.79; Merrimac, \$2,889.97; Middleton, \$4,765.19; Newbury, \$6,-775.08; Rowley, \$4,318.25; West Newbury, \$5,807.62.

Franklin County.—Ashfield, \$12,995.30; Bernardston, \$6,376.58; Buckland, \$7,425.87; Charlemont, \$7,937.09; Colrain, \$13,694.84; Conway, \$11,246.45; Deerfield, \$11,246.45; Gill, \$5,569.42; Hawley, \$7,883.28; Heath, \$7,721.85; Leverett, \$6,376.58; Leyden, \$6,295.86; Monroe, \$2,-556.01; New Salem, \$10,842.87; Northfield, \$10,250.87; Rowe, \$6,457.29; Shelburne, \$7,937.09; Shutesbury, \$6,161.29; Sunderland, \$6,457.29; Warwick, \$9,659.04; Wendell, \$7,641.13; Whately, \$6,457.29.

Hampden County.—Blandford, \$12,543.94; Brimfield, \$9,830.83; Chester, \$11,917.74; Granville, \$11,327.17; Hampden, \$5,381.08; Holland, \$5,103.25; Monson, \$15,794.91; Montgomery, \$4,697.68; Southwick, \$7,775.66; Tolland, \$5,135.06; Wales, \$3,999.43; Wilbraham, \$6,672.54.

Hampshire County.—Belchertown, \$17,488.50; Chesterfield, \$9,524.51; Cummington, \$7,425.89; Enfield, \$5,165.83; Goshen, \$4,547.01; Granby, \$7,694.94; Greenwich, \$5,677.04; Hadley, \$9,040.21; Hatfield, \$6,134.43; Huntington, \$7,175.44; Middlefield, \$7,410.55; Pelham, \$5,084.93; Plainfield, \$8,286.86; Prescott, \$6,349.67; Southampton, \$9,282.36; Westhampton, \$7,452.79; Williamsburg, \$7,049.21; Worthington, \$11,761.72.

Middlesex County.—Acton, \$8,986.40; Ashby, \$7,318.27; Ashland, \$5,-219.65; Bedford, \$5,434.89; Boxborough, \$3,371.63; Burlington, \$5,757.75; Carlisle, \$6,668.95; Dracut, \$9,963.60; Dunstable, \$5,906.58; Holliston, \$7,587.32; Hopkinton, \$10,541.53; Littleton, \$6,320.56; No. Reading,

\$5,058.21; Pepperell, \$9,255.45; Sherborn, \$5,919.19; Shirley, \$7,183.35; Stow, \$5,703.95; Sudbury, \$10,070.15; Tewksbury, \$8,986.40; Townsend, \$10,008.81; Tyngsborough, \$6,581.27; Westford, \$13,503.86.

Norfolk County—Bellingham, \$4,390.96; Medfield, \$3,872.76; Medway, \$4,448.00; Millis, \$2,811.08; Norfolk, \$4,092.63; Plainville, \$3,871.15.

Plymouth County—Carver, \$12,511.76; Halifax, \$5,338.00; Hanson, \$5,811.92; Lakeville, \$6,668.77; Norwell, \$8,569.60; Pembroke, \$9,206.41; Plympton, \$4,622.51; Rochester, \$7,993.27.

Worcester County—Ashburnham, \$12,225.83; Barre, \$14,850.15; Berlin, \$5,652.72; Bolton, \$8,555.91; Boylston, \$6,497.52; Brookfield, \$5,828.26; Charlton, \$20,165.22; Dana, \$6,941.59; Douglas, \$11,074.26; Dudley, \$10,170.24; E. Brookfield, \$3,010.15; Grafton, \$7,869.36; Harvard, \$9,040.21; Hardwick, \$15,554.05; Holden, \$12,029.92; Hubbardston, \$10,876.37; Lancaster, \$8,406.48; Leicester, \$9,821.54; Lunenburg, \$11,087.40; Mendon, \$5,932.42; New Braintree, \$7,831.55; No. Brookfield, \$10,784.10; Northborough, \$8,201.56; Oakham, \$7,264.46; Oxford, \$10,338.41; Paxton, \$4,769.93; Petersham, \$9,890.62; Phillipston, \$6,425.66; Princeton, \$12,214.79; Royalston, \$10,715.87; Rutland, \$9,694.29; Southborough, \$7,645.53; Spencer, \$14,876.32; Sterling, \$10,954.38; Sturbridge, \$11,872.09; Sutton, \$13,642.92; Templeton, \$11,825.47; Upton, \$9,715.04; Warren, \$11,286.15; West Boylston, \$6,712.87; W. Brookfield, \$9,481.87; Westborough, \$10,008.80; Westminster, \$13,925.41; Millville, \$2,617.22.

THE REGULATION OF ADVERTISING SIGNS AND DEVICES WITHIN THE PUBLIC VIEW

(Sections 29-33, Chapter 93, General Laws as amended)

In accordance with the provisions of sections 29 to 33 inclusive, Chapter 93, General Laws (Ter. Ed.), providing for the control of billboards and other advertising devices on public ways or in private property within public view of any highway, public park or reservation, the Department adopted on January 24, 1924, certain new rules and regulations, superseding all former issues; and these have continued in force during the present year.

Applications, Licenses and Permits—Licenses were granted to 21 individuals and others to engage in the business of advertising in the Commonwealth by the use of outdoor signs.

Of 1,008 applications received for permits for the erection of advertising signs, 400 permits were granted for the year, while 2,600 applications, mostly injunction ones, are being held for definite action by this Department. In addition, over 230 individual advertisers were granted permits mainly consisting of a sole application. The greater part of these individual applications were obtained at the information desk maintained in the office of this Division for the purposes of educating and explaining the various provisions of the Law.

Of 3,634 renewal applications sent to those whose permits were to expire June 30, 1938, 3,351 were returned to the Department requesting renewal; and on account of the advertisers failing to renew, 283 permits were cancelled. The total number of permits in force November 30, 1937 was 3,751.

Receipts and Expenditures—The total receipts for the year ending November 30, 1937 were \$11,756.60 and the expenditures were \$27,252.06.

The Removal of Signs—The "Sign Patrol" consisting of small trucks completely equipped for the work, have removed 75,000 signs during the year in addition to 8,000 removed by other agents of the Department, under authority of Section 30A, Chapter 93, General Laws (Ter. Ed.), from within the highways and from private property.

Hearings—Hearing were given to officials of Barnstable County, Melrose, Somerville, and Mrs. Eleanor Barry of Cambridge.

REGISTRY OF MOTOR VEHICLES

The 1937 statistics show a small increase in the various classes of applications handled, as compared with the figures for 1936. As was the case in 1936, the reissues, each representing usually the registration of a new car in place of one previously registered, account for nearly 50% of the total increase in registrations.

Highway safety was accorded the usual important place in the activities of the Registrar, and, together with the motor vehicle inspectors, the police, both state and local, and the continued cooperation of the safety committees, the campaign for safer driving was vigorously enforced. The value of this work and other efforts having to do with highway safety was borne out by the fact that Massachusetts, as a state, was given the grand award in the 1937 National Traffic Safety Contest as being the safest state in the Union, so far as motor vehicle traffic was concerned. This activity is an annual contest sponsored by the National Safety Council.

Aside from enforcement work, equally important in contributing to the enviable safety record, is the policy of the Department of Public Works, in which the Registry serves, in the matter of highway construction. The policy of the department, under the present Commissioner, has been not only to build roads of the proper material, but to provide for sidewalks and curbs and roads with definite reservations in the center, separating the lines of traffic; the use of non-skid surfaces, installation of drainage facilities to quickly clear the highway of water, construction of grade separations at intersections and particularly highway and railroad intersections, the elimination of sharp corners, construction of hardened shoulders, installation of warning and traffic signals, painting of white lines, efficient snow removal, sanding icy surfaces during the winter months, and many other details which help the motorist trying to operate safely and without accidents.

The system of requiring persons 65 years of age or over to pass a test showing their ability to drive an automobile before their licenses were renewed, which was started on September 21, 1936, was abandoned on May 7, 1937, in anticipation of a law passed by the Legislature which barred this type of examination as being discriminatory. During the time this plan was in operation approximately 11,000 persons passed the test, 200 failed to pass the test, and 5,700 persons did not attempt to renew their licenses, presumably because of the required test.

The clerical work of the Registry was especially heavy in 1937 because again this year, for the second time, it became necessary to prepare new renewal license cards for about 30% of the operators renewing their licenses, due to the system in which these records are kept on a semi-permanent 12-year basis. A card in the license file for each operator provides for the posting to the renewal license record any suspensions of his license, changes of address, etc., over a 12-year period, at the end of which time a transcript of this record is transferred to a new card.

A few of the outstanding figures for the year as compared with those of the previous year are as follows:

	1936	1937
Motor vehicle certificates of registration issued	1,034,803	1,085,869
Compulsory insurance cancellation notices received	69,126	67,811
Licenses to operate issued	1,128,516	1,177,924
Examinations of applicants for licenses	98,997	109,729
Licenses and registrations revoked and suspended	52,705	58,358
Licenses revoked for driving under influence of liquor	6,486	6,829

Approximate total number of applications handled	2,253,405	2,354,600
Gross receipts from fees	\$6,765,751.86	\$6,945,602.30

REGISTRATIONS OF PASSENGER CARS, COMMERCIAL VEHICLES AND MOTOR CYCLES

The following registration figures show a 5.45% increase in passenger registrations and a 1.06% increase in commercial registrations over the previous year, while the motor cycle registrations showed a decrease of 10.6% for the same period.

	1904	1914	1924	1934	1936	1937
Passenger cars	3,772	77,246	580,489	831,853	915,010	964,956
Commercial vehicles	—	—	91,826	112,260	118,477	119,737
Motor cycles	489	8,161	10,778	1,375	1,316	1,176
Totals	4,261	85,407	683,093	945,488	1,034,803	1,085,869

EXAMINATIONS FOR LICENSES

The appointment system of examining new operators was continued during the year 1937. The following figures show that there was a general increase in the number of persons examined, comparable with the increase in registrations, at the 55 examining points in the State.

	1936	1937
Operators passed	86,334	96,760
Operators unfit	7,621	6,583
Restriction removal, passed	848	541
Restriction removal, unfit	119	44
"Competency", passed	544	422
"Competency", unfit	39	26
"Competency" (age 65) passed	4,731	6,288
"Competency" (age 65) unfit	106	91
Total examinations	100,342	110,755

BRANCH OFFICES

No new branch offices of the Registry were established, nor was the teletype machine installation extended to any of the branches not formerly so equipped.

The following figures give an approximate idea of the distribution of the volume of applications presented by the public.

APPROXIMATE DISTRIBUTION OF REGISTRATIONS, LICENSES, ETC.

	Regis- trations	First Licenses	License Renewals	Miscel- laneous	Totals
Boston:					
Counter	194,000	—	174,000	95,000	463,000
Mail	168,000	—	401,000	11,700	580,700
Examination	—	22,000	—	1,500	23,500
Pittsfield	25,000	3,900	22,000	9,600	60,500
Springfield	51,000	7,800	57,400	23,500	139,700
Greenfield	12,500	1,900	11,600	5,400	31,400
Northampton	10,400	1,300	10,800	3,800	26,300
Worcester	56,000	8,200	56,100	26,000	146,300
Fitchburg	22,000	3,400	19,500	9,100	54,000
Frammingham	22,600	3,600	18,500	9,500	54,200
Lawrence	22,000	3,800	27,400	7,500	60,700
Lowell	22,000	4,000	24,400	7,800	58,200
Fall River	24,600	5,700	25,100	9,700	65,100

P.D. 54					87
New Bedford	23,600	3,700	29,100	9,600	66,000
Lynn	45,500	7,500	48,600	19,500	121,100
Quincy	34,500	7,700	40,200	14,900	97,300
Brockton	40,000	4,100	35,700	17,800	97,600
Hyannis*	13,000	2,200	8,300	4,800	28,300
Haverhill	13,800	2,300	14,400	5,500	36,000
Holyoke	11,500	1,600	11,100	4,600	28,800
Malden	26,000	3,600	20,300	9,400	59,300
Waltham	23,500	5,100	19,500	8,500	56,600
	861,500 ²	103,400	1,075,000	314,700 ¹	2,354,600

* Includes Oak Bluffs and Nantucket.

¹ This figure includes approximately 222,000 number plate reissues.

² Does not include reissues (see Miscellaneous).

COMPULSORY MOTOR VEHICLE LIABILITY INSURANCE

The following figures show the volume of papers received and notices mailed in connection with the carrying out of the law regarding compulsory motor vehicle liability insurance.

	1936	1937
Causes for Cancellation of Policies:		
For non-payment of premiums	55,978	52,466
For other reasons	13,148	15,345
Total	69,126	67,811
Origin of requests for Cancellation of Policies:		
Insurance companies	46,660	45,779
Finance companies	22,466	22,032
Total	69,126	67,811
Disposition of applications for cancellation:		
Replacement certificates, adjusting cancellations	5,803	6,500
Reinstatements, adjusting cancellations	38,834	37,464
Sets of plates returned before effective date of cancellation	4,495	4,148
Revocations	19,994	19,699
Total	69,126	67,811
Return of Plates:		
Returned promptly after revocation	11,164	11,184
By Police	4,950	4,940
Not returned	3,880	3,575
Total revocations	19,994	19,699

PROPERTY DAMAGE

Under the provisions of Section 22A of Chapter 90, General Laws, the Registrar may, upon receipt of evidence satisfactory to him, suspend the license of any operator who has failed to satisfy a judgment rendered against him after sixty days in any case in which such operator is the defendant in an action brought to recover damages for injuries to property arising out of the use, operation or maintenance on the ways of the Commonwealth of a motor vehicle or trailer.

The following figures indicate the number of cases in which successful plaintiffs availed themselves of the additional facilities provided in the law for recovering damages and the action taken thereon:

	1936	1937
Complaints received	600	582
Releases received, no action being necessary	158	158
Licenses or right to operate suspended	442	424
Licenses or right to operate reinstated after suspension	255	235

AIRCRAFT

The following figures summarize the work of the Aviation Section for the fiscal year of 1937. In comparing them with the previous year, it will be noted that there is a considerable increase in the pilots and aircraft registered in the Commonwealth.

A definite decrease has been accomplished in the airplane accidents, which is very encouraging. This is contributed to very strict enforcement of the existing aviation statute.

Very favorable comments have been made on the airmarkers throughout the State and there is no doubt that they will be a great factor in preventing accidents.

Close co-operation has been maintained with the Federal Government and the aeronautical authorities of other states.

The following figures summarize the work of the Aviation Section:

	1936	1937
Pilots registered	938	1,260
Aircraft registered	216	304
Duplicates issued	4	9
Suspensions of pilots' and aircraft rights	21	167
Aircraft grounded	66	66
Reinstatements of rights and groundings	40	44
Regulations promulgated	2	1
Surveys of fields	22	50
Plans of buildings drawn for airmarking	178	178
Airmarkers completed under State promotion	176	61
Reports made by aircraft inspectors	2,086	2,550
Airplane accidents	46	29

	1936	1937
Fatal accidents	3	3
Personal injury accidents	9	5
No injury accidents	34	21
Persons killed in airplane accidents	4	3
Persons injured in airplane accidents	17	6
Ground accidents		7
Personal injury accidents	1	0
No injury accidents	5	12
Unknown accidents	1	0
Persons injured in ground accidents	1	0

37 airport plans have been furnished Federal Relief Agencies;

22 airport plans have been furnished the Department of Commerce;

5 special surveys have been made for the W.P.A.

PERIODIC INSPECTION OF MOTOR VEHICLE EQUIPMENT

In accordance with the provisions of General Laws, Chapter 90, Section 7A, the safety equipment of all motor vehicles registered in Massachusetts was inspected twice during the year, in the months of May and September. These were the tenth and eleventh inspections conducted under the periodic inspection law and the third year of semi-annual inspections. Semi-annual inspections have been found far more effective in securing safe vehicles on the highway than the single annual inspection.

As formerly, inspections were conducted at Official Inspection Stations designated by the Registrar. There was a noticeable improvement in the efficiency and honesty in which the work was done as evidenced by the very few complaints received from motorists, and the small number of stations which it was found necessary to cancel or suspend.

Approximately 850,000 pleasure cars, trucks, trailers and buses were inspected during each period. The results in per cent may be summarized as follows:

		May Per Cent	September Per Cent
O. K.		44	17*
Foot Brake	Defective	14	16
Emergency Brake	"	10	10
Lights	"	42	79
Horn	"	2	1.4
Muffler	"	1	1.2
Steering Gear	"	2	2.3
Windshield Cleaner	"	2	2
Number Plates	"	.4	.6

* Method of headlight adjustment changed, accounting for relatively small percentage of cars O. K., and large percentage with "defective" lights.

SCHOOL BUS INSPECTIONS

Chapter 271 of the Acts of 1932 require the inspection of all school buses operated in Massachusetts under contract with cities or towns, or owned by cities or towns. These inspections were conducted under the supervision of the Equipment Section five times during the year, during the first weeks of January, March, May, September and November. In each month, about 937 vehicles were submitted for inspection at Official Inspection Stations throughout the state. It is worthy of note that since the School Bus Act first became effective in September, 1932, not one serious school bus accident has occurred. This is undoubtedly due in large measure to the application of the provisions of the Act, which removed from the highway many antiquated, poorly conditioned buses and other vehicles which had previously been used for the transportation of school children.

BRAKES, LIGHTS AND MISCELLANEOUS

Approximately 50 men were regularly assigned to law enforcement on the road. Their efforts were directed principally to apprehending speeders, and testing brakes and other equipment. The activities of these inspectors, in conjunction with the two regular equipment inspections during the year, were undoubtedly reflected in the improvement of the accident situation throughout the state, which showed a decrease of 4% in fatalities despite a 5% increase in registration and a 7% increase in vehicle-miles operated. A summary of the work of these equipment and enforcement inspectors is as follows:

Reports of defective equipment	10,308
Reports of vehicles not inspected	6,626
Reports of improper operation	3,144
Light tags issued	57,689
Brake tags issued	22,706

Three thousand, eight hundred and fifty-six registrations were suspended because of defective equipment as follows:

Defective brakes	2,382
Defective lights	671
Miscellaneous defective equipment	803

In addition to handling the office work in connection with the above activities, the Equipment Office force handled 48,306 light tags issued by State and local police departments, and sent out notices to report, or warning notices, in 4,839 other cases of defective equipment, of which 1,094 were for defective windshields; 848 reports from inspectors for reference to the Registrar's Office; and 9,802 special reports of brake tests were made by inspectors and handled through the Equipment Office.

Headlamps, Tail Lamps and Reflex Reflectors

During the year, no new headlamps were approved, but approval was granted to 15 tail lamps and 5 reflex reflectors.

Directional Signals

The Massachusetts Supreme Judicial Court in a decision rendered on October 15, 1937 held that rules and regulations of the Department of Public Works, made under date of April 13, 1936, and purporting to require electrical or mechanical directional signal devices on certain commercial vehicles operated over state highways, were beyond the authority of the Department granted by statute and that the regulations were, therefore, void and unenforceable.

MOTOR VEHICLE DEATHS, INJURIES, COLLISIONS

Deaths in connection with the operation of motor vehicles in the year 1937 numbered 784 as compared with 817 in the year before, or 33 less, a 4.0% reduction. A comparative table of classified fatalities, injuries and collisions in the years 1936 and 1937 follows:

Motor Vehicle Accidents to Persons

	Persons Killed (including children)		Persons Injured (including children)	
	1936	1937	1936	1937
Pedestrians by autos	462	436	12,165	12,299
Pedestrians by motorcycles	0	0	31	16
Pedestrians near street cars	1	1	11	16
Occupants of autos	302	302	31,196	35,751
Occupants of autos at R. R. crossings	13	7	19	18
Occupants of motorcycles	6	8	180	157
Bicycle Riders	24	21	1,098	1,311
Occupants horse-drawn vehicles	0	4	104	95
Coasters on sleds	7	1	540	27
Coasters on wheels	2	4	118	164
Totals	817	784	45,462	49,854
	Children Killed		Children Injured	
	1936	1937	1936	1937
Boys	94	87	5,585	5,388
Girls	33	28	3,090	3,206
Totals	127	115	8,675	8,594

Types of Collisions

	1936	1937
Collision with pedestrian	13,511	14,019
Collision with automobile	20,215	22,986
Collision with horse-drawn vehicle	153	131
Collision with railroad train	27	23
Collision with street car	279	275
Collision with fixed object	1,860	2,140
Collision with bicycle	1,350	1,628
Non-Collision (overturn)	650	714
Collision with motorcycle	199	195
Collision with sled	553	26
Collision with animal	76	87
Coaster on wheels	137	183
Totals	39,010	42,407

P.D. 54		91
In the daytime	23,533	23,876
After dark	15,477	18,531
Totals	39,010	42,407

ACCIDENT REPORT LETTERS

As provided in Section 26, Chapter 90, General Laws, every operator of a motor vehicle in any manner involved in an accident in which any person is killed or injured is required to report in writing to the Registrar. The number of these formal accident reports received from operators in 1937 was 44,839 as compared with 41,605 received in 1936. Under the requirements of Section 29, Chapter 90, General Laws, 17,847 similar reports of accidents were received from police departments throughout the State in 1937 as against 17,498 received in 1936. In addition, in connection with this reporting of accidents by operators during the year 1937, there were received 8,730 letters and complaints reporting faulty operating as compared with 9,189 such letters in 1936.

COMPARATIVE STATEMENT OF YEARLY REGISTRATIONS, LICENSES, DEATHS, INJURIES, REVOCATIONS AND SUSPENSIONS

Year	Automobiles Registered	Motor Cycles Registered	Total Registrations	Number of Persons Killed	Number of Persons Injured	Licenses issued	Total suspensions and Revocations	For operating Under Influence of Liquor
1910	31,360	3,358	34,718	77	963	41,259	283	22
1911	38,907	3,658	42,565	110	1,248	51,950	360	14
1912	50,132	5,034	55,166	142	1,962	66,645	546	56
1913	62,660	7,127	69,787	188	2,923	81,034	608	87
1914	77,246	8,161	85,407	229	4,010	99,532	858	131
1915	102,633	9,520	112,153	294	6,197	133,935	1,153	202
1916	136,809	10,713	147,522	315	9,131	171,596	1,396	320
1917	174,274	11,065	185,339	438	7,282	214,229	1,831	485
1918	193,497	12,862	206,359	499	8,598	235,140	2,343	553
1919	247,183	13,698	260,881	582	16,287	297,968	2,156	554
1920	304,538	15,142	319,680	481	21,182	261,539	2,944	888
1921	360,731	12,058	372,790	544	11,487	380,519	4,899	1,508
1922	449,838	11,675	461,513	522	15,277	444,173	8,369	2,460
1923	566,150	11,733	577,883	578	16,217	536,819	11,613	3,333
1924	672,315	10,778	683,093	709	19,579	620,439	14,154	4,395
1925	764,338	10,333	774,671	755	25,736	698,378	16,249	4,654
1926	826,224	9,215	835,439	705	25,351	763,951	18,705	4,863
1927	819,703	7,245	826,948	693	31,721	814,094	31,252	4,983
1928	883,595	6,656	890,251	715	42,291	870,160	40,814	5,071
1929	1,018,904	6,168	1,025,072	777	46,111	944,338	53,133	5,381
1930	1,008,476	4,642	1,013,118	795	44,279	982,795	52,954	5,052
1931	1,006,808	3,068	1,009,876	793	48,837	1,024,304	63,841	5,535
1932	921,909	1,661	923,570	768	47,658	1,014,635	73,511	4,824
1933	930,493	1,022	931,516	769	48,249	1,022,662	56,691	4,274
1934	944,113	1,375	945,488	921	53,055	1,053,527	52,505	5,717
1935	967,178	1,375	968,553	795	48,421	1,077,880	52,317	6,264
1936	1,033,487	1,316	1,034,803	817	45,462	1,128,516	52,705	6,486
1937	1,084,693	1,176	1,085,869	784	49,854	1,177,924	58,358	6,829

INVESTIGATIONS AND PROSECUTIONS BY INSPECTORS

Investigations were made under the direction of the Chief Inspector relative to fatal and nonfatal accidents, violations of the laws concerning brakes and headlights, inspection of garages, miscellaneous complaints, and the prosecution of motorists in court. The table below shows the wide range of these activities of the inspectors.

Classification of Reports

	1936	1937
Accidents, fatal	782	790
Accidental, nonfatal	1,525	1,284
General reputation	1,598	1,612
Miscellaneous	6,389	6,885
Total	10,294	10,571

92		P.D. 54
Complaints filed	28,649	36,798
Garages inspected	8,274	13,280
Headlights, brakes, etc.	93,290	93,101
Prosecutions	778	921
Amount of fines	\$25,687	31,001

Revocations and Suspensions

	1936	1937
Licenses suspended	15,314	20,756
Licenses revoked	3,707	5,433
Rights suspended	5,788	6,718
Certificates suspended	5,660	4,645
Certificates revoked	20,126	19,806
Certificates and licenses suspended	42	32
Certificates and licenses revoked	1,369	330
Certificates revoked and right suspended	97	30
Rights in Massachusetts suspended	602	608
Totals	52,705	58,358
Resulting from investigations	14,498	14,092
Resulting from court convictions	12,052	14,855
Resulting from police complaints	3,033	3,539
Resulting from judges' complaints	3	4
Resulting from state police complaints	2,333	6,169
Resulting from insurance cancellations	19,986	19,699
Totals	52,705	58,358

Character of Offenses

	1936	1937
Reckless and endangering life	1,590	1,935
Liquor convictions	4,648	5,004
Going away after accidents	500	581
Without authority	545	554
Racing	6	0
Improper person	5,181	5,137
Improper person, liquor	1,838	1,825
Improper operating	4,028	3,621
Two overspeeds	531	98
Three overspeeds	13	3
Insurance cancellations	19,986	19,699
Insurance convictions	380	411
Improper equipment, miscellaneous	594	803
Improper equipment, lights	603	671
Improper equipment, brakes	3,662	2,382
Failure to display stickers	0	0
Fatal accidents	781	752
Property damage cases	442	399
Other offenses	95	96
Parking violations	3,717	5,455
Overloading trucks	0	0
Sixty milers	959	—
Fifty milers	2,413	8,519
Forty-five milers	—	291
Several minor complaints	186	119
Failure to slow for pedestrian	7	3
Totals	52,705	58,358

P.D. 54		93
Court recommendations adopted:—		
Reckless and endangering	45	41
Going away after accidents	3	6
Operating under influence of liquor	1	0
Allowing improper person to operate	0	0
Insurance convictions	1	1
	<hr/>	<hr/>
Totals	50	48

Persons whose licenses were suspended or revoked and who had to pass examination in order to have them returned	5,086	5,124
Registrations revoked on liquor convictions	—*	1,476

* No figures available. Until September 24, 1936, both license and registration were revoked together on liquor convictions, and figures were not recorded separately. Acts of 1936, Chapter 434, effective on this date, required that hearing be given before registration could be revoked.

ANALYSIS OF COURT ABSTRACTS RECEIVED

	1936	1937
Number of courts forwarding abstracts	95	95
Total abstracts received	54,311	50,355
Abstracts recording convictions	35,575	36,967

Offenses

(Analysis of convictions, not including appeals)

	1936	1937
Overspeeding	11,470	11,896
Reckless driving	8	13
Operating under influence of liquor	4,314	4,533
Using auto without authority	753	828
Endangering lives	2,381	2,762
Not stopping after causing injury	842	969
Without license	2,555	2,644
Without registration certificate	475	543
Unregistered vehicle	481	496
Improper display or no register number	123	127
Refusing to stop on signal	259	410
Unlighted lamps*	287	0
Not signalling	0	0
Dazzling lights*	0	0
Operating within 8 feet of street car	59	71
Violation of Metropolitan Park rules	112	77
Operating after suspension or revocation of license	596	619
Larceny	108	160
Manslaughter	0	8
Miscellaneous	1,347	1,279
Lenses not approved	4	0
No reflector*	0	0
Racing	6	0
Operating after registration certificate revoked	7	17
No rear light*	41	0
Not displaying lights*	88	0
Passing Red Light	510	597
Improper lights	91	267
Brakes not as required by law	198	164
Violation of insurance law	484	578

* Figures relative to Unlighted lamps, Dazzling lights, No reflector, No rear light, and Not displaying lights for the year 1937 are here all included under "Improper Lights".

94		P.D. 54
Not slowing down approaching pedestrian	39	58
Not slowing down at intersecting way	6,593	6,508
Violation of law of road	1,198	1,158
Perjury—Making false statements on license application, falsely impersonating or conspiring to obtain a license	12	30
Loaning license to another	11	7
Allowing intoxicated person to operate	9	24
No windshield cleaner	0	1
Attempted larceny	29	26
Allowing improper person to operate	85	97
Totals	35,575	36,967

USED CAR SECTION

(Motor Vehicle Identification)

The following is a resume of the work accomplished by the Used Car Section which indexes, under engine numbers, all motor vehicles registered and reported stolen, and checks reports of sales of used cars against the stolen-vehicle records. Dealers' and repairmen's plates and registration certificates are issued by this section.

The work of the section is summarized in the following tables:—

Dealers

	1936	1937
Total number of first class dealers reporting	1,225	1,351
Total number of second and third class dealers reporting	615	628
Total number making reports to this office	1,840	1,979

Reports

Approximate number of notices of intended sales received daily	280	333
Approximate number of dealers' reports received daily	1,382	1,821

Motor Vehicles Stolen

Number stolen in Boston	3,297	2,885
Number stolen in Massachusetts (including Boston)	7,191	7,726
Number reported stolen from various sources throughout the country, including Massachusetts	21,179	20,679
Number of motor vehicles recovered through information furnished by this office	290	330

Engine and Serial Numbers

Engine numbers assigned to cars	5	9
Certificates issued authorizing the replacement of engine numbers	338	315
Certificates issued authorizing the replacement of serial numbers	191	90
Certificates issued authorizing the replacement of both engine and serial numbers	6	7
Total number of authorization certificates issued	535	421

EASTERN CONFERENCE OF MOTOR VEHICLE ADMINISTRATORS

The department was represented at meetings of the Conference held at Asbury Park, N. J., May 25 and 26, and Providence, R. I., November 18 and 19, 1937.

Many matters of common interest to the motor vehicle administrators of the member states were studied and discussed, including programs for

highway safety campaigns, methods for procuring uniform enforcement of motor vehicle laws, methods for controlling the speed of motor vehicles, instruction in high schools on motor vehicle operation, physical and mental examination of motor vehicle operators, curbing motor vehicle thefts, the problem of the drunken operator, and the procedure in suspension and revocation of operators' licenses.

The meetings resulted in beneficial gains of knowledge concerning the constantly increasing duties and problems of the administrators, and served to renew a strong spirit of cordial and helpful cooperation.

ANALYSIS OF RECEIPTS

The fees received for the year 1937 together with the number of certificates of registration issued in each classification and the number of licenses granted, etc., are shown in the following table:

Certificates of Registration:

Passenger cars (including taxicabs)	960,029	\$2,689,087.06
Commercial cars	119,737	1,410,459.00
Buses	4,927	131,135.40
Trailers	11,333	23,138.00
Motor Cycles	1,176	1,597.75
Manufacturers or Dealer (including repairers)	3,446	10,338.00
Manufacturers or Dealers additional cars (including repairers)	20,710	62,129.00

Licenses to operate:

Original licenses	103,703	207,406.00
Renewal licenses	1,074,221	2,148,264.00
Examinations	84,250	\$168,500
Re-examinations	25,479	25,479

Total examinations	109,729	193,979.00
Copies of certificates and licenses furnished	39,884	39,883.50
Duplicate number plates furnished	9,214	9,214.00
Miscellaneous receipts, process fees, etc.		18,971.59

Total amount of fees	\$6,945,602.30
Motor Vehicle fees rebated (deducted)	68,891.65

Net fees	\$6,876,710.65
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Court fines received by the Treasurer and Receiver-General*	5,948.55
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Total receipts not including gasoline tax**) credited

Highway Fund Account, 1937,	\$6,882,659.20
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* Fines imposed under the provisions of Chapter 90 are payable to the treasury of the county wherein the offence was committed, effective October 1, 1935 (Acts of 1935, Chapter 303).

** Receipts from the gasoline tax, credited to the Highway Fund, are collected through the office of the Commissioner of Corporations and Taxation.

EXPENSES OF THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles for the fiscal year 1937 was \$1,578,195.99, which was 22.9% of the net fees collected. This cost, deducted from the receipts for the year, left the sum of \$5,304,463.21 available for legislative appropriation for highway work.

ANALYSIS OF EXPENDITURES FOR THE FISCAL YEAR 1937

Personal Services:

Regular employees payroll	\$1,033,461.53
Temporary employees payroll	41,030.05
Overtime payroll	5,505.35
	<u>\$1,079,996.93</u>

Supplies:

Books, maps, etc.	\$820.04
News clippings	268.70
Carbon	641.58
Typewriter supplies	1,038.34
Adding machine supplies	24.65
Other supplies	8,497.80
Envelopes	7,931.76
Guide cards, folders	1,786.87
Paper	1,123.01
Pens, pencils, etc	977.33
Miscellaneous	1,099.26
Typewriter repairs	346.90
Other repairs	1,878.97

 \$26,435.21

Equipment and Furniture:

Typewriter machines	\$7,138.79
Adding machines	488.00
Other machines	5,328.71
Desks	937.00
Bookcases, tables, etc	521.45
Filing cabinets	6,975.49
Chairs, settees, etc.	531.12
Dictograph system	62.79
Headlight and brake testing equipment	1,600.06
Uniforms	3,027.41
Counters, safes etc. (inc. Branch off.)	286.09
Hold-up protection	448.60

 \$27,345.51

Travel:

Officials	\$385.50
Employees	11,011.13
Mileage—Private cars	103,254.77
Auto Maintenance—	
Garage rent	620.90
Gas and oil	1,148.85
Miscellaneous	294.45
Repairs and supplies	347.28
Automobiles purchased	1,133.00
Aviation Expenses—	
Employees	826.55
Mileage (Private cars)	990.54
Garage rent	199.27
Gas and oil	642.24
Miscellaneous	29.00
Repairs and supplies	232.60
Telephone	79.07
Miscellaneous	40.00

 \$121,235.15

Other Services and Expenses:

Expressage	\$2,734.85
Postage	95,447.72
Printing—	
Paper for printing	10,003.56
Other reports	1,830.52
Other printing	11,784.88
Telephone, telegraph and teletype	15,090.59
Premium on Bonds	530.66
Rent (inc. cleaning and labor)	915.00

Labor	1,627.01	
Number plates	129,326.38	
Police lists	8,250.00	
Sundries	272.35	
Air-marking project	2,205.08	
		\$280,018.60
Branch Office Expenses:		
Rent	\$23,024.34	
Telephone	7,699.12	
Lighting	2,040.23	
Cleaning and Janitor Service	4,746.83	
Express Service to Bank	1,090.00	
Labor	1,131.97	
Towels, Ice and Water	704.85	
Travel	170.00	
Miscellaneous	1,316.79	
Remodelling Office	832.56	
		\$42,756.69
		\$497,791.16
<i>Publicity for Safety Work</i>		
Printing		\$407.90
<i>Summary</i>		
Payrolls	\$1,079,996.93	
Expenses	497,791.16	
Publicity for Safety Work	407.90	
		\$1,578,195.99

RELATING TO WATERWAYS AND PUBLIC LANDS BOSTON HARBOR

The Commonwealth Flats at South Boston

Commonwealth Pier 5

The minor work necessary for the effective operation of the pier has been continued during the year. Repairs have been made to the gangways, floating fenders, sprinkler system, elevators, elevator machinery, Ogden doors and to the heating plant.

The repair and reconstruction of platforms at this pier, approved as Public Works Administration Project No. Mass. 1301 was completed late in May, 1937. This work was done under two contracts, one with the Merritt-Chapman and Scott Corporation, the other with the Bay State Dredging and Contracting Company.

Under contract of December 13, 1935, with the Merritt-Chapman and Scott Corporation the pile and timber platforms on the outer portions of the pier surrounding the pier sheds were removed, and a new concrete platform built consisting of a reinforced concrete deck slab on a frame work of girders and steel beams supported on caisson and steel pile foundations with the steel piles driven to rock bearing or to hard underlying strata. This work was completed May 26, 1937.

Under contract of July 14, 1936, with the Bay State Dredging and Contracting Company repairs were made to the foundations of the Head House at the inshore end of the pier. On account of the difficulty of supporting this structure to allow the removal of the wooden piles, it was decided to enclose the foundations with a steel sheet pile bulkhead and to protect the wooden piles with light weight concrete. This work was completed March 1, 1937.

The total contract cost of the work under these two contracts was \$780,450.60, for which a grant of \$386,526 was made by the Public Works Administration.

To facilitate the examination of passengers from the Canadian National Steamships a request was made by the United States Customs Officials for the erection of a fence in the room at Commonwealth Pier used for this purpose. A contract was made on July 13, 1937, with P. J. Dinn and Company for the building of a wire fabric fence 8 feet high and about 199 feet 4 inches long in the Examination Room at the pier at a contract price of \$686. The work was completed August 4, 1937.

Increasing complaints were received this year from steamship agents and stevedores as to certain difficulties in moving cargo because of the settlement of the pavement on the first floor of the pier. As repairs to other floors at the pier had become necessary a contract with the Warren Brothers Roads Company was made on November 2, 1937, for resurfacing with bituminous concrete on a Portland cement concrete base portions of the first floor and second floor at the pier. This work is now in progress.

A summary of freight and passengers using the pier in 1937 follows:

**NUMBER OF TONS FREIGHT AND PASSENGERS HANDLED AT COMMONWEALTH
PIER 5 DURING FISCAL YEAR ENDING NOVEMBER 30, 1937**

Steamship Line	Number of Ships	Inward Freight Tons			Outward Freight Tons			Passengers		
		R.R.	Truck	Total	R.R.	Truck	Total	In	Out	Total
Amer.-Haw. S.S. Co. . .	52	28,429	85,070	113,499	14,440	28,323	42,763	—	—	—
Luckenbach S.S. Co. . .	81	8,533	58,513	67,046	8,585	17,420	26,005	—	—	—
Norton, Lilly & Co. . .	10	1,393	13,315	14,708	—	—	—	—	133	133
Int'l Mercantile Marine	2	1,939	6,872	8,811	—	—	—	—	—	—
Can. Nat. S.S. Co. . .	71	188	1,295	1,483	88	416	504	4,113	3,308	7,421
Italian Line	15	—	146	146	290	100	390	—	2,696	2,696
French Line	3	—	—	—	—	—	—	187	572	759
Holland Amer. Line . .	3	—	—	—	—	—	—	441	206	647
TOTALS	237	40,482	165,211	205,693	23,403	46,259	69,662	4,741	6,915	11,656

In the early summer large shipments of wool arriving at the pier could not be moved readily on account of the strike of the wool handlers and accumulated to such an extent as to cause a considerable congestion of cargo. This condition resulted in a demand for additional pier facilities in Boston Harbor.

In response to this demand the Department has during the year made studies and investigations as to feasibility and comparative costs of building a new pier easterly of the Fish Pier at South Boston, of rebuilding and enlarging Commonwealth Pier 1 at East Boston, and of constructing piers at other sites in Boston Harbor.

DEVELOPMENT OF LAND SOUTH OF SUMMER STREET

The seven sections of Storehouse No. 1 on E Street have been occupied during the year by the Wiggin Terminals, Inc. Repairs to the Storehouse needed this year have been carried out for the most part by employees of the Department.

RAILROAD YARDS OF THE COMMONWEALTH

Under an agreement dated November 23, 1937, the Commonwealth granted to the Trustees of the property of the New York, New Haven and Hartford Railroad Company the continued use to October 31, 1941, of the surplus capacity of the Commonwealth Railroad Yard at a rental of \$10,500 per year. This yard has been used for some years by the railroad company under agreements of November 15, 1916 and March 16, 1928. The present agreement provides that the use of this yard by the Company

"shall in all cases be subordinate to the use of said railroad yard in connection with said Commonwealth Pier 5 and other properties of the Commonwealth north of Summer Street in South Boston and subject to such reasonable rules and regulations as may from time to time be prescribed by the Commonwealth or such board or boards as may exercise its powers, and the use by the Contractor shall be without material interference with such use."

The Commonwealth under date of November 23, 1937, made an agreement with the Trustees of the New York, New Haven and Hartford Railroad Company for the continuance by the Company to December 31, 1941, of its use of the surplus capacity of the railroad yard built by the Federal Government and released to the Commonwealth by the Secretary of War on May 14, 1926, and two tracks northerly of and connecting with the tracks of the Commonwealth railroad yard, at a rental of \$29,250 per year. This yard has been used for some years by the railroad company under an agreement dated March 16, 1928. The present agreement provides:

"The use of said Federal railroad yard and of said two tracks which said Contractor may make hereunder shall in all cases be subordinate to the use of said Federal railroad yard and tracks, which the Commonwealth may at any time have occasion to make and shall be subject to such reasonable rules and regulations as may from time to time be prescribed by the Commonwealth or such board or boards as may exercise its powers, and the use by the Contractor shall be without material interference with such use; provided that the Contractor shall maintain and at all reasonable times make available for service two tracks lying within and through said Federal Railroad yard for use of delivery of cars to and from the United States Army Base, in accordance with the terms of an agreement between said Commonwealth and the United States of America dated May 14, 1926, the conditions of which as applied to said two tracks are hereby referred to and made a part of this agreement during the continuance thereof."

THE COMMONWEALTH FLATS AT EAST BOSTON

Aircraft Landing Field - - - Boston Airport

The greater part of the area reclaimed by the Commonwealth at East Boston continues to be occupied by the city of Boston as an airport. On August 10, 1928, under authority of Chapter 64 of the Resolves of that year, the Department leased to the city approximately 5,717,000 square feet of land for this purpose. The use of an additional area of 4,210,760 square feet was authorized by a lease executed July 14, 1930, in accordance with the provisions of Chapter 53 of the Resolves of 1930. The matter of the lease to the city of two additional parcels, one northeasterly of the area leased in 1928 and 1930, the other southeasterly of the parcel leased in 1930, is still pending.

The use of these areas by the city is subject to certain rights of occupancy and use granted by lease of June 30, 1922 to the War Department, with an option of annual renewals to June 30, 1937, by a supplementary agreement of December 27, 1926.

During the year studies have been made and estimates of cost of enlarging the airport to provide additional area and increased length of runways.

Reclamation of Flats

The work of dredging and filling at East Boston under contracts made by the Department for the purpose of reclaiming flats has been in abeyance since 1923. Between that year and November 30, 1937, approximately 3,186,510 cubic yards of material dredged from various locations

in the harbor have been deposited in the receiving basin. In the year ending November 30, 1937, about 106,700 cubic yards were dumped upon flats northerly of Governors Island. The Commonwealth has reclaimed approximately 150 acres of land at East Boston.

Under licenses granted for building bulkheads, dredging and filling, the city has reclaimed for the extension of the airport about 140 acres.

COMMONWEALTH PIER 1, EAST BOSTON

Work under letter contract of November 25, 1936, with the Flynn Roofing and Sheet Metal Works for installing skylights at the pier was completed December 30, 1936, at a contract cost of \$1,601.18. This contractor in March made repairs to the roof of the pier in accordance with letter contract of March 1, 1937, at a contract cost of \$278.26.

During the year six vessels have docked at this pier, discharging a total cargo of 7,027 tons.

EAST BOSTON - - CUNARD DOCKS

The dredging to a depth of 40 feet at mean low water of an area between the Cunard Docks and the Main Ship Channel in Boston Harbor, under letter contract of August 4, 1936, with the Bay State Dredging and Contracting Company was completed December 30, 1936, at a contract cost of \$12,876.27.

ANCHORAGE BASIN

On January 21, 1937, a letter contract was made with the M and R Construction Company for repairs to the dolphins marking the northerly edge of the Anchorage Basin at East Boston. This work was completed February 2, 1937, at a contract cost of \$345.

DORCHESTER BAY

Hearing was held May 5, 1937, on petition of members of the Savin Hill Yacht Club for the dredging of an area adjacent to the basin used by the boats of the club in Dorchester Bay near the club house.

On June 7, 1937, a contract was made with the Bay State Dredging and Contracting Company to dredge a basin in Dorchester Bay at the Savin Hill Yacht Club to a depth of 8 feet at mean low water at the following contract prices: for dredging and disposing of the dredged material 45 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. The work was completed July 3, 1937, at a contract cost of \$14,606.55. Toward this cost a contribution of \$3,000 was made by the Metropolitan District Commission.

MALDEN RIVER

A contract was made on July 13, 1937, with Herbert T. Gerrish to dredge to a depth of 6 feet at mean low water a channel about 2200 feet long and 100 feet wide in Malden River, Everett, Malden and Medford, at the following contract prices: for dredging and disposing of the dredged material on shore, 44 cents per cubic yard, measured in situ; for removing and disposing of boulders \$20 for each cubic yard. This work was completed October 21, 1937, at a contract cost of \$19,498.60. Toward this cost a contribution of \$3,000 was made by The Barrett Company.

On October 26, 1937, a contract was made with the North Atlantic Dredging Company to dredge in Malden River a channel about 1200 feet long and 60 feet wide on the bottom to a depth of 6 feet at mean low water below the Medford Street Bridge, and a channel 50 feet wide on the bottom to a depth of 5 feet at mean low water through said bridge and for a distance of about 150 feet above it. The contract prices for this work were: for dredging and disposing of the dredged material on shore 45 cents per cubic yard, measured in situ; for removing and disposing of all boulders \$20 for each cubic yard. This dredging is now in progress.

Toward the cost of the work a contribution of \$1,000 was made by the Morton Oil Company.

WOLLASTON DREDGING

Hearing was held January 27, 1937, on petition of the Wollaston and Squantum Yacht Clubs for dredging the channel and basins at Wollaston serving the two clubs.

On June 7, 1937, a contract was made with the J. S. Packard Dredging Company to dredge to a depth of 6 feet at mean low water a channel and basin at the Wollaston and Squantum Yacht Clubs in Quincy, at the following contract prices: for dredging and disposing of the dredged material 47 cents per cubic yard, scow measurement; for removing and disposing of boulders \$25 per cubic yard. This work was completed July 16, 1937, at a contract cost of \$22,808.63. Toward this cost a contribution of \$3,500 was made by the city of Quincy.

POINT PEMBERTON SEA WALL, HULL

On March 26, 1937, a contract was made with Karl M. Fredrickson to place about 140 linear feet of concrete footing under the toe of the existing sea wall, to make patch repairs to the present wall, including filling of the construction joints, to place about 1000 tons of stone riprap including chips, and to rehandle existing riprap that may interfere with the construction of the proposed footing. The contract prices for this work were: for furnishing all labor and materials and constructing the concrete footing under and in front of the present wall, including all excavation, back filling and incidental work, \$12 for each cubic yard of concrete placed in the completed work; for furnishing labor, materials, tools and equipment and doing all work necessary to patch existing sea wall and fill the construction joints, the lump sum of \$100; for each ton of new stone riprap or chips furnished in place in the completed work, \$1.44 for each ton of 2000 pounds; for rehandling existing riprap and replacing the same within the new work, including all incidental expense the lump sum of \$15. This work was completed May 4, 1937, at a contract cost of \$2,182.84.

WEYMOUTH FORE RIVER, QUINCY AND WEYMOUTH

The dredging in Weymouth Fore River in co-operation with the project of the Federal Government has been continued this year.

The work under letter contract of November 19, 1936, with the J. S. Packard Dredging Company was completed March 31, 1937, at a contract cost of \$5,958.28.

On May 17, 1937, a letter contract was made with the J. S. Packard Dredging Company for dredging approximately 8000 cubic yards of material from an area in the channel above the Weymouth Fore River Bridge to a depth of 27 feet at mean low water, at a contract price of 46 cents per cubic yard, scow measurement, for dredging and disposing of the dredged material. This work was completed May 20, 1937, at a contract cost of \$3,712.20.

A further contract with the J. S. Packard Dredging Company was made on June 7, 1937, for the removal of shoals in the channel from the upstream side of the Quincy-Weymouth Bridge for a distance of about 2800 feet in Weymouth Fore River to a depth of 27 feet at mean low water, at the following contract prices: for dredging and disposing of dredged material 58 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$25 per cubic yard. This work was completed August 30, 1937, at a contract cost of \$12,005.42.

The dredging carried out under these contracts completes the work required by the Federal Government in connection with its recent project for the improvement of Weymouth Fore River.

HAYWARD'S CREEK

Early in the fiscal year the Department with the assent of the Governor and Council executed a deed and agreements to allow further development of land at Hayward's Creek.

By deed dated December 29, 1936, the Commonwealth conveyed to the Bethlehem Shipbuilding Corporation, Ltd., two parcels of land in Quincy and Braintree, containing a total area of 14.71 acres at a price of \$73,550.

By agreement of December 29, 1936, the Fore River Railroad Corporation granted to the Commonwealth certain rights to cross over and under the railroad operated over a strip of land conveyed to the Company in 1920 and separating parcels of land belonging to the Commonwealth. The execution of this agreement allows convenient access from each of these parcels to the other.

An agreement was also made on December 29, 1936, with Matthew P. Scullin for his purchase of five parcels of land of the Commonwealth in Quincy and Braintree, containing 33.49 acres. The purchaser is to pay \$100,000 in 20 equal annual payments and, in addition, a rental of \$1,875 per year until the payments are completed.

MARINE BORERS

The Department has continued this year its co-operation with the New England Committee on Marine Piling Investigation by maintaining four test boards in Boston Harbor at the following locations: Commonwealth Pier 1, East Boston; Commonwealth Pier 5, South Boston; Weymouth Fore River Bridge at Quincy Point, and at the wharf owned by the Commonwealth in South Bay, Roxbury.

Sample blocks removed each month from the test boards are sent to the Committee for examination and comparison with similar blocks from other stations on the New England coast. The results of these examinations are published by the Committee.

INSPECTION OF STRUCTURES IN TIDE WATER

In 1936 and 1937 the appropriations made by the Legislature for the inspection of structures in tide water have enabled the Department to continue the work in Boston Harbor during these two years.

Above mean low water 193 structures have been inspected; 26 structures have been examined by a diver below mean low water; and 3 special reports with plans and photographs have been made relative to structures not now being maintained in accordance with the provisions of the licenses granted for the work and the plans accompanying the licenses.

SURVEYS

Surveys have been made during the year in connection with the maintenance and operation of property of the Commonwealth. Hydrographic surveys have been carried on for the purpose of providing data for projects for the improvement of navigation, in Mystic River, Malden River, at Jeffries Point, in Weymouth Fore River, Neponset River, Dorchester Bay, Quincy Bay, Hingham Bay at Houghs Neck, Hingham Harbor at Crow Point, Weir River and Hull Bay.

RIVERS, HARBORS, TIDE WATERS AND FORESHORES OUTSIDE OF BOSTON HARBOR

For the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, in accordance with the provisions of section 11, Chapter 91, General Laws, an appropriation of \$100,000 was made during 1937, with the following condition:

"provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is

covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered."

An appropriation of \$22,500 was also available during the year for the maintenance of structures, and for repairing damages along the coast line or river banks of the Commonwealth, and for the removal of wrecks and other obstructions from tide waters and great ponds.

Petitions were filed with the Department this year for surveys and improvements in the following localities: Barnstable shore, Barnstable; Bass River, Dennis and Yarmouth; Brewster Shore; Chatham Shore; Cotuit Shore, Barnstable; Dennis Shore; Falmouth Shore; Harbor Cove, Gloucester; Harwich Shore; Herring River, Harwich; Lagoon Pond, Oak Bluffs and Tisbury; Lewis Bay, Barnstable; Lewis Bay, Yarmouth; Little Harbor, Marblehead; Lobster Cove, Gloucester; Lynn Harbor, Lynn; Megansett Harbor, Falmouth; Newburyport Shore; Oak Bluffs Shore; Pilgrim Beach, Truro; Provincetown Shore; Silver Beach and Wild Harbor, Falmouth; Vineyard Haven Harbor; Wellfleet Shore; West Bay, Barnstable.

Public hearings have been held and estimates of cost made, but no work has been undertaken to carry out improvements petitioned for at Bass River, Dennis and Yarmouth; Little Harbor, Marblehead; Lynn Harbor, Lynn; Megansett Harbor, Falmouth; Newburyport Shore; Provincetown Shore.

Information as to work previously done in rivers and harbors of the Commonwealth may be found in the annual reports of the Board of Harbor and Land Commissioners, the Commission on Waterways and Public Lands, the Division of Waterways and Public Lands of the Department of Public Works and the Department of Public Works.

An account of work done during 1937 for the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor follows.

BARNSTABLE DREDGING

Cotuit Harbor, East Bay and Lewis Bay

Work under contract of July 1, 1936, with the Bay State Dredging and Contracting Company for dredging the entrance channels to Cotuit Harbor, East Bay and Lewis Bay, was completed May 6, 1937, at a contract cost of \$20,565. Toward this cost a contribution of \$9,000 was made by the town of Barnstable.

Hyannis Harbor

Hearing was held January 27, 1937, on a petition of Horatio S. Bond and others for dredging an anchorage basin in Hyannis Harbor,—sometimes known as Inner Lewis Bay.

On July 14, 1937, a contract was made with Herbert T. Gerrish to dredge by the hydraulic method an anchorage basin 6 feet deep at mean low water in Hyannis Harbor at the following contract prices: for dredging and disposing of the dredged material within the disposal area or on marsh or flats, 53 cents per cubic yard measured in place; for removing and disposing of boulders \$20 per cubic yard. This work was completed November 30, 1937, at a contract cost of \$13,137.64. Toward this cost a contribution of \$5,000 was made by the town of Barnstable.

Popponesset Bay

The work of dredging a channel and basin in Popponesset Bay under contract of July 21, 1936, with Herbert T. Gerrish was completed June 9, 1937, at a contract cost of \$11,028.16. Toward this cost a contribution of \$4,000, was made by the town of Barnstable and contributions amounting to \$1,600 by individuals interested.

West Bay

Hearing was held January 27, 1937, on petition of the Selectmen for widening and deepening the channel at the entrance to West Bay.

On June 7, 1937, a contract was made with the Bay State Dredging and Contracting Company for dredging a channel at the entrance and into West Bay to a depth of 6 feet at mean low water and a width of 100 feet on the bottom, at the following contract prices: for dredging and disposing of the dredged material 65 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed July 29, 1937, at a contract cost of \$7,176. Toward this cost a contribution of \$3,750 was made by the town of Barnstable.

BARNSTABLE SHORE PROTECTION

Cotuit

Hearing was held November 10, 1937, on petition of the Selectmen for protective work at the town landing and bathing beach on Ocean Avenue at Cotuit.

Proposals for building about 225 linear feet of concrete sea wall and a stone jetty about 100 feet long opposite Ocean View Avenue were received November 30, 1937.

West Beach - - Squaw Island Road

Hearing was held January 27, 1937, on petition of the Selectmen for additional jetties to protect the shore at West Beach.

On October 13, 1937, a contract was made with Frederick V. Lawrence for building three stone jetties with riprap returns along and easterly of Squaw Island Road at Hyannisport, at a contract price of \$2.70 for each ton of 2000 pounds of granite stone riprap and chips placed in the completed work. Under this contract work is now in progress.

South Hyannis

A contract was made on October 27, 1937, with George M. Bryne for building a stone jetty and placing stone riprap for the protection of a part of the shore at South Hyannis, at a contract price of \$2.47 per ton of 2000 pounds for granite stone riprap and granite stone chips furnished and placed in the completed work. The stone jetty and the placing of riprap were completed November 15, 1937, at a contract cost of \$1,521.30. Toward this cost a contribution of \$400 was made by the County and an equal amount was contributed by the owner of the property particularly benefited by the protection.

BREWSTER SHORE PROTECTION

Hearing was held January 27, 1937, on a petition of the Selectmen for jetty construction on the northerly shore of Brewster at Ellis Landing and on a petition of Eleanor Gleason for the building of a jetty to protect her property.

On August 25, 1937, a contract was made with George M. Bryne to place riprap upon the shore at the bank in front of the Gleason property and at Ellis Landing, at a contract price of \$3.08 for each ton of 2000 pounds of heavy granite stone riprap and stone chips furnished and placed in the completed work. The placing of riprap was completed October 12, 1937, at a contract cost of \$1,855.05. Toward this cost contributions of \$500 each were made by the town and the county.

CAPE COD CANAL LANDING PIER, BOURNE

The Cape Cod Canal pier authorized by Chapter 414 of the Acts of 1931, and completed in 1934, is built of solid fill construction about 600 feet long, providing a depth of 25 feet in the dock at mean low water and a light timber extension about 400 feet long as a tie up for vessels along the easterly side of the turning basin. A superstructure 36 feet wide

and 200 feet long has been built of brick, steel and timber upon the pier.

No work except minor repairs has been needed during the year.

CONNECTICUT RIVER

WPA Work

During the year 1937 the Department in co-operation with the Works Progress Administration continued the work of placing riprap and building dikes and concrete walls at various points along the Connecticut River to repair damage caused by flood and protect certain towns from future damage due to excessive high water.

Work was carried on this year in the following towns and cities: Northfield, Montague, Deerfield, Whately, Hatfield, Hadley, Northampton, Easthampton, South Hadley, Chicopee, Holyoke and West Springfield.

The Department in 1937 has expended State funds amounting to \$23,970.45 for this work as its share of the total expenditure of \$242,996.19.

DENNIS SHORE PROTECTION

Dennisport

The work of building two stone jetties under the terms of the contract of September 22, 1936, with the H. and J. Construction Company was completed January 8, 1937, at a contract cost of \$2,250. Toward this cost contributions of \$600 each were made by the town and the county.

Dennisport and Sesuit

Hearing was held January 27, 1937, on petition of the Selectmen for three stone jetties on the southerly shore of Dennis at Dennisport.

A contract was made on August 25, 1937, with George M. Bryne to build four stone jetties on the shore at Dennisport and one stone jetty on the shore at Sesuit, at the following contract prices: for furnishing and placing heavy granite stone riprap and granite stone chips in the jetties, \$3.08 for each ton of 2000 pounds of stone in the completed work. These jetties were completed November 6, 1937, at a contract cost of \$5,658.18. Toward this cost contributions of \$1,500 each were made by the town and the county.

EAST BAY, BARNSTABLE

On October 27, 1937, a contract was made with Harry L. Jones to build a timber fence about 150 feet long westerly of the west jetty at the entrance to East Bay, at a contract price of \$494.76 for building the fence, including all material, the furnishing of all plant, tools, labor and equipment and incidental work. This construction is now in progress.

FALMOUTH SHORE PROTECTION

Falmouth Heights and Menauhant

Hearing was held on January 27, 1937, on petitions of the Selectmen and others for stone jetties at Falmouth Heights and Menauhant.

A contract with Frederick V. Lawrence was made on July 14, 1937, for building a stone jetty about 190 feet long at Falmouth Heights and a stone jetty about 200 feet long at Menauhant, at a contract price of \$3.24 per ton of 2000 pounds of granite stone riprap and chips furnished and placed in the jetties. This work was completed September 9, 1937, at a contract cost of \$10,983.60. Toward this cost contributions of \$2,750 each were made by the town and the county.

Shore Street

Work under contract of October 6, 1936, with Turner and Breivogel for building a steel sheet pile bulkhead and reinforced concrete cap opposite Shore Street was completed December 9, 1936, at a contract cost of \$2,189.93.

On December 18, 1936, a letter contract was made with S. W. Lawrence to furnish and place about 100 tons of stone riprap and chips at a contract price of \$3 per ton to protect the westerly end of the steel and concrete bulkhead built under the contract of October 6, 1936. This work was completed February 1, 1937, at a contract cost of \$335.64.

Toward the cost of the protective work provided under these two contracts, contributions of \$750 each were made by the town and the county.

GLOUCESTER FISH PIER

After the refusal in November, 1936, of the Federal Public Works Administration to aid in financing the building of the Gloucester Fish Pier unless the lease required by the provisions of Chapter 303 of the Acts of 1936, was executed with a non-profit sharing organization, the citizens of Gloucester organized the Gloucester Community Pier Association, Inc., in compliance with the ruling of the Federal authorities in this matter.

On March 1, 1937, the Mayor of Gloucester submitted to the Department the Order of the City Council under date of February 26, 1937, authorizing the taking of land for the site of the proposed pier, the Order of taking of the same date, an order of the City Council made February 26, 1937, authorizing the Mayor to sign an agreement with the Department to construct a public way from the main highway over Parker Street to said pier, and the agreement executed by the Mayor in accordance with the Order. A deed dated March 1, 1937, from the city to the Commonwealth of the land needed for the building of the pier was also delivered to the Department.

An agreement under date of March 1, 1937, between the Department and the Gloucester Community Pier Association, Inc., for the leasing of the pier was executed and an indenture of lease under the same date was signed. The agreement and lease were approved by the Governor and Council and the terms accepted by the Federal Government.

On April 6, 1937, a contract was made with the Bay State Dredging and Contracting Company for the construction of a fish pier at Five Pound Island, Gloucester, and for dredging approaches to the pier, at unit prices amounting to a contract cost of \$331,672.20. This work is now in progress.

A contract was made on August 3, 1937, with the Frick Company, Inc., to furnish and install in complete working order the equipment specified in the Stores Building and the Cold Storage Building at this pier, for the lump sum of \$207,186.

On October 5, 1937, a contract was made with the H. L. Hauser Building Company, Inc., for the construction of the Stores Building and Cold Storage Building at the Gloucester Fish Pier at the following contract prices: for furnishing materials and erecting complete in place the Stores Building above the piles and the Cold Storage Building above elevation 8, with appurtenant structures and equipment, the lump sum of \$439,704; for excavation, foundations, steel concrete piles, etc., at unit prices, a sum estimated at \$38,850. This work is now in progress.

HARBOR COVE, GLOUCESTER

Hearing was held January 27, 1937, on petition of the Mayor of Gloucester for dredging in Harbor Cove to provide access to the city landing.

On July 22, 1937, a letter contract was made with the Bay State Dredging and Contracting Company to excavate 1200 cubic yards of material from an area near the city landing at a contract price of 40 cents per cubic yard, scow measurement. This work was completed August 5, 1937, at a contract cost of \$480. Toward this cost a contribution of \$240 was made by the city of Gloucester.

HARWICH SHORE PROTECTION

Harwichport

The work of building four stone jetties and reconstructing two jetties

at Harwichport under contract of September 8, 1936, with the H and J Construction Company was completed December 8, 1936, at a contract cost of \$4,505.40. Toward this cost contributions of \$1,000 each were made by the town and the county.

The building of four additional jetties at Harwichport under contract of November 17, 1936, with Frederick V. Lawrence was completed December 4, 1936, at a contract cost of \$3,827.25. The town and the county contributed \$1,200 each toward the cost of these jetties.

South Shore

Hearing was held January 27, 1937, on petition of the Selectmen for the building of jetties along the south shore of Harwich between the Dennis and Chatham boundary lines.

On September 14, 1937, a contract was made with Frederick V. Lawrence for building a stone jetty near Horse Grass Hill, extending two jetties, repairing four jetties and rebuilding one jetty, along the Harwich shore on Nantucket Sound. The contract prices for this work were: for furnishing and placing granite stone riprap and stone chips in the new jetty, the extension of two jetties and the repairs to the other jetties, the sum of \$3 for each ton of 2000 pounds; for furnishing crane, operator, two men, and for all incidental work in rebuilding one jetty, the sum of \$7 for each hour for crane, operator and two men. The work was completed November 9, 1937, at a contract cost of \$3,682.63. Toward this cost contributions of \$1,000 each were made by the town and by the county.

HERRING RIVER AND WITCHMERE HARBOR, HARWICH

In October an inspection of the jetties at the entrance to Herring River and to Witchmere Harbor showed considerable sand moving through the structures and causing shoaling in the harbors. Repairs to these jetties seemed imperative.

A contract was made on October, 1937, with Louis A. Byrne for repairing the westerly stone jetties at Witchmere Harbor and Herring River by placing crushed stone to fill openings in the existing stone work, at the following contract prices: for furnishing and placing broken stone in the jetties, \$3.70 for each ton of 2000 pounds in the completed work; for material excavated and placed as back filling in the completed work, 80 cents for each cubic yard. These repairs are not yet completed. Toward the cost of the work a contribution of \$1,500 has been made by the town.

KATAMA BAY, EDGARTOWN

Hearing was held two years ago upon a petition of the Selectmen for the reopening of a channel through the beach from Katama Bay to the Atlantic Ocean, as the channel excavated in 1921 had shoaled and shifted to the eastward.

On August 3, 1937, a contract was made with Turner and Breivogel to excavate a channel through Katama Beach from Katama Bay to the ocean at a contract price of \$1,745 for the completed work, providing a channel 50 feet wide on the bottom, with side slopes of 2 on 1, about 300 feet long and excavated to the depth of mean low water in Katama Bay. This work was completed August 30, 1937, at a contract cost of \$1,745.

LAGOON POND, OAK BLUFFS AND TISBURY

On February 10, 1937, a letter contract was made with Herbert T. Gerrish to excavate about 1000 cubic yards of material from a shoal lying inside the new Lagoon Pond Bridge between Oak Bluffs and Tisbury, to a depth of 6 feet at mean low water and a width of approximately 40 feet, at a lump sum price of \$935, including the disposal of excavated material on marsh land near by. The dredging was completed February 20, 1937, at a contract cost of \$935. Toward this cost a contribution of \$500 was made by the county.

LAKE ANTHONY, OAK BLUFFS

Although the dredging of the entrance channel and basin at Lake Anthony under contract of April 1, 1936, with Herbert T. Gerrish ended November 10, 1936, certain shoal areas remained which could not be removed by the hydraulic dredge used for the greater part of the work.

To complete the dredging a letter contract with the Bay State Dredging and Contracting Company was made on March 29, 1937, for removal of the shoal areas to a depth of 6 feet at mean low water, at a contract price of 95 cents per cubic yard, scow measurement. This work was completed April 12, 1937, at a contract cost of \$1,376.55. The cost of this dredging was paid from funds available under the provisions of Chapter 464 of the Acts of 1935.

LEWIS BAY, YARMOUTH

Hearing was held January 27, 1937, on petitions of the Selectmen and of the Lewis Bay Yacht Club for dredging in Lewis Bay.

On June 7, 1937, a contract was made with the Bay State Dredging and Contracting Company to dredge a channel 100 feet wide on the bottom and 7 feet deep at mean low water, and a basin 6 feet deep at mean low water in Lewis Bay at West Yarmouth, at the following contract prices: for dredging and disposing of the dredged material 51 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed July 10, 1937, at a contract cost of \$8,835.75. Toward this cost the town made a contribution of \$5,000.

LOBSTER COVE, GLOUCESTER

Hearing was held January 27, 1937, on petitions of Brant M. Dexter and others for dredging in Lobster Cove.

A contract was made on July 14, 1937, with the Bay State Dredging and Contracting Company for dredging to a depth of 8 feet at mean low water a shoal area on Babson's Flats in Lobster Cove, at the following contract prices: for dredging and disposing of the dredged material 56 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. The work was completed August 3, 1937, at a contract cost of \$4,928. Toward this cost a contribution of \$2,500 was made by the city.

MANCHESTER HARBOR, MANCHESTER

The dredging of an anchorage basin and channel in Manchester Harbor under contract of September 8, 1936, with the J. S. Packard Dredging Company was completed April 29, 1937, at a contract cost of \$38,197.28. Toward this cost a contribution of \$20,000 was made by the town.

MEGANSETT HARBOR, FALMOUTH

The building of a stone breakwater at Megansett Harbor under contract of September 8, 1936, with George M. Bryne was completed February 10, 1937, at a contract cost of \$23,267.84. Toward this cost a contribution of \$12,000 was made by the town.

NEW BEDFORD STATE PIER

On August 19, 1937, the Lamport Manufacturing Supply Company, Inc., ended its occupancy of a part of the State Pier at New Bedford. After the completion of the necessary repairs the whole pier will be available again for water borne commerce.

A contract with Maurice M. Devine, Inc., was made October 27, 1937, to repair and reconstruct certain portions of the cement plaster walls at the steel shed and to furnish and replace five window sash, at the following contract prices: for removing existing plaster and applying gunite to specified portions of the wall, the lump sum of \$1,100; for removing plaster and applying gunite to certain other portions of the wall, 40 cents

per square foot of wall surface; for applying a flash coat of gunite to certain other portions of the wall, 30 cents per square foot of surface; for removing five old window sash and furnishing and installing five new window sash, the lump sum of \$275. This work is now in progress.

On October 27, 1937, a contract was made with John F. Shea Company, Inc., for repairing and waterproofing the roof of the two-story steel shed at the following contract prices: for 5-ply tar and gravel roofing furnished and placed 11 cents for each square foot; for replacing old planks with new, including all labor, material and fastenings, 10 cents per square foot; for copper furnished and placed 50 cents per square foot. This work is now in progress.

A letter contract with Frank C. Taylor was made November 29, 1937, for furnishing, fitting and securing floating fender logs at the State Pier. This work is now in progress.

To provide for the use of this pier to its full capacity the Department is asking for an additional appropriation for movable drops upon the south side and for building unloading platforms on the second floor of the steel shed to allow the discharge of cargo directly to this floor, and for heavy floating fenders on the south side of the pier. No funds are yet available for this work.

Three steamship lines in coastwise traffic now make weekly stops at the pier and a load of lumber is occasionally received from the West Coast.

OAK BLUFFS SHORE PROTECTION

Hearing was held January 27, 1937, on petition of the Selectmen for protection of the shore at Oak Bluffs.

On August 3, 1937, a contract was made with Turner and Breivogel to build a stone jetty northerly of Nantucket Avenue in Nantucket Sound at Oak Bluffs, at a contract price of \$4.95 per ton of 2000 pounds of heavy stone riprap and stone chips furnished and placed in the completed work. This jetty was completed September 20, 1937, at a contract cost of \$1,983.66. Toward this cost a contribution of \$1,000 was made by the town.

A letter contract was made with Turner and Breivogel on September 23, 1937, for placing additional riprap in front of the bulkhead at the Highlands, at a contract price of \$4.50 per ton. This work was completed October 5, 1937, at a contract price of \$1,579.41.

On October 25, 1937, a letter contract was made with Turner and Breivogel for repairs to certain of the timber jetties extending from the sea wall along the water front at Oak Bluffs. The repairs are to be made by the use of creosoted yellow pine timber and piles at a contract price not exceeding a total cost of \$1,859.16. This work has not yet begun.

COMMONWEALTH PROPERTY AT PLYMOUTH

An appropriation of \$3,500 was made this year by the Legislature for expenses of the property at Plymouth acquired by the Pilgrim Tercentenary Commission and placed under the jurisdiction of the Department by vote of the Governor and Council on July 17, 1924. The usual care of the grounds and pier and the necessary minor repairs have been carried on during the year.

A letter contract with Arthur K. Finney was made on June 16, 1937, for placing about 80 cubic yards of gravel filling in the approach to the State Pier. This work was completed June 29, 1937, at a contract cost of \$44.

PROVINCETOWN HARBOR, PROVINCETOWN

By item 693a, Chapter 434 of the Acts of 1937, an appropriation of \$4,000 was made available for dredging at or near the public town wharf at Provincetown.

Proposals for this work, invited by public advertisement, were received

PROVINCETOWN TERCENTENARY COMMISSION

During the year the land at Provincetown acquired by the Provincetown Tercentenary Commission and placed under the control of the Department June 23, 1926, has been cared for from funds appropriated for this area and the Province Lands. An employee has been kept at work during the summer to maintain the park in proper condition.

ROUGHAN'S POINT, REVERE

The work of building a concrete and steel sea wall, granite steps, solid filling and the placing of riprap at Roughan's Point, under contract of November 17, 1936, with M. F. Gaddis, Inc., was completed July 29, 1937, at a contract cost of \$137,254.49.

This project was carried out under the provisions of Chapter 358 of the Acts of 1936. In accordance with the terms of the statute the city of Revere made a contribution of \$42,500 toward the cost of the work.

SCITUATE SHORE PROTECTION

Under a letter contract of November 24, 1936, with Frank H. Barry certain minor repairs were made to sea walls at Scituate. The work was completed January 19, 1937, at a contract cost of \$1,799.53.

SENGEKONTACKET POND, OAK BLUFFS

Chapter 374 of the Acts of 1935, authorized the Department of Public Works to construct a channel 30 feet wide from Nantucket Sound to Sengekontacket Pond in Oak Bluffs, to build a bridge and approaches to carry the existing State highway between Oak Bluffs and Edgartown across said channel, and to build jetties on each side of the entrance of said channel in Nantucket Sound. The act provided for an appropriation of not more than \$12,500 by the State and required that no work be begun until the town of Oak Bluffs contributed and paid into the Treasury of the Commonwealth the sum of \$12,500.

The required contribution was paid by the town on December 5, 1936.

A contract was made on December 8, 1936, with Turner and Breivogel for excavating a channel from Nantucket Sound to Sengekontacket Pond, for constructing two stone jetties, for placing riprap on the channel slopes and for building a highway bridge and approaches in Oak Bluffs. The contract prices for this work were: for material excavated in proposed channel and disposed of within disposal areas, 45 cents per cubic yard; for removing and disposing of boulders, \$3.50 per cubic yard; for each ton of heavy stone riprap and stone chips furnished in place in the completed work \$4.50 per ton; for constructing by-pass, including all materials, plant, equipment, lights and incidental work \$285; for building bridge and approaches, unit prices. This work was completed July 24, 1937, at a contract cost of \$24,078.17.

TRURO SHORE PROTECTION

Pilgrim Beach

Hearing was held January 27, 1937, on petition of the Selectmen for the building of additional stone jetties at Pilgrim Beach.

On August 3, 1937, a contract was made with Louis A. Byrne for the construction of three stone jetties on the shore of this beach, at a contract price of \$4.15 for each ton of 2000 pounds of granite stone riprap and granite chips furnished and placed in the jetties. This work was completed September 21, 1937, at a contract cost of \$3,787.08. Toward this cost a contribution of \$1,000 each was made by the town and county.

VINEYARD HAVEN HARBOR, TISBURY

The dredging in Vineyard Haven Harbor requested by the Selectmen in the petition filed in 1936, was adopted as a PWA project toward the cost of which the Federal Government agreed to make a contribution of 45 per cent.

On December 8, 1936, a contract was made with the Bay State Dredging and Contracting Company to dredge an anchorage basin about 1400 feet long, 300 feet wide and 6 feet deep at mean low water, at the following contract prices: for dredging and disposing of the dredged material 26.7 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed April 8, 1937, at a contract cost of \$16,302.76.

WAQUOIT BAY, FALMOUTH AND MASHPEE

The building of a stone jetty on the westerly side of the entrance to Waquoit Bay in Falmouth, under contract of October 27, 1936, with Frederick V. Lawrence, was completed March 9, 1937, at a contract cost of \$19,102.17. Toward this cost a contribution of \$10,000 was made by the town of Falmouth.

Hearing was held in January 1936, upon a petition of the Selectmen of Mashpee for dredging in Waquoit Bay to provide a channel into Hamblen Pond.

On December 18, 1936, a letter contract was made with George H. Boyd and Edward R. Jones to dredge a channel at Dr. Warren's Point, so called, on the Mashpee side of Waquoit Bay, to a depth of 3 feet at mean low water and a width of 20 feet on the bottom, at a contract price of 50 cents per cubic yard. Toward the cost of the dredging contributions have been made of \$350 by the town of Mashpee and of \$150 by individuals, but the dredging has not been completed.

WELLFLEET SHORE PROTECTION

Hearing was held January 27, 1937, on petition of the Selectmen for the building of jetties to check erosion along the Wellfleet shore.

On June 29, 1937, a contract was made with Louis A. Byrne for building eight stone jetties on the shore at Wellfleet Harbor, at a contract price of \$3.37 for each ton of 2000 pounds of granite stone riprap and granite chips furnished and placed in the jetties. This work was completed September 14, 1937, at a contract cost of \$5,230.88. Toward this cost a contribution of \$1,500 each was made by the town and by the county.

WEST CHOP, TISBURY

Work under contract of November 25, 1936, with Frederick V. Lawrence for the placing of riprap at the base of the bank at West Chop, was completed February 13, 1937, at a contract cost of \$5,719.14. Toward this cost a contribution amounting to \$2,000 was made by property owners and a contribution of \$1,000 by the town.

WILD HARBOR, FALMOUTH

Hearing was held January 27, 1937, on petition of the Selectmen for dredging at Wild Harbor and for the building of a bulkhead at New Silver Beach.

On August 3, 1937, a contract was made with Herbert T. Gerrish to dredge a channel and shoals in Wild Harbor,—the channel to a depth of 8 feet at mean low water, 110 feet wide on the bottom at the outer end and 65 feet wide on the bottom from the jetty into the harbor. Certain shoals within the basin are to be removed to a depth of 6 feet at mean low water. The contract prices for the work are: for dredging and disposing of the dredged material on marsh or flats by the hydraulic process, 70 cents per cubic yard, measured in place; for removing and disposing

112 P.D. 54
of boulders \$20 per cubic yard. This work was completed October 5, 1937, at a contract cost of \$4,886.70. Toward this cost a contribution of \$2,500 was made by the town.

YARMOUTH SHORE PROTECTION

The work of placing heavy stone riprap and stone chips along the shore at South Yarmouth Beach, under contract of October 6, 1936, with J. W. Nickerson was completed January 6, 1937, at a contract cost of \$6,881.57. Toward this cost contributions of \$2,000 each were made by the town and by the county.

Miscellaneous

GREAT PONDS

Jurisdiction over great ponds belonging to the Commonwealth was conferred upon the Board of Harbor and Land Commissioners by Chapter 318 of the Acts of 1888. This act applies to ponds containing in their natural state ten or more acres of land. Authority to sell and convey or lease, subject to the approval of the Governor and Council, any of the islands owned by the State in great ponds was later given by Chapter 379, Acts of 1904, now section 2, Chapter 91, General Laws.

During the year the Department has considered matters relating to: Alum Pond, Sturbridge; Bartlett Pond, Plymouth; Benton Pond, Otis; Big Pond, Otis; Congamond Lake, Southwick; Crossmans Pond, Kingston; Foster's Pond, Andover; Great Pond, Otis; Lake George, Wales; Lead Mine Pond or Quassac Lake, Sturbridge; Lower Naumbeag Pond, Ashburnham; Manchaug Lake, Douglas; Mary's Pond, Marion and Rochester; Musquashiat Pond, Scituate; Neck Pond, Kingston; Onota Lake, Pittsfield; Oyster Pond, Edgartown; Three Mile Pond or Brush Hill Pond, Sturbridge; Wenham Pond, Carver; Whalom Lake, Leominster; White Pond, Chatham; White Pond, Concord.

Surveys were made this year of the following great ponds:

Three Mile Pond, Sheffield

Area at time of survey	18.02 acres
Natural pond area	18.02 acres
Maximum depth	14.2 feet

White Pond, Concord

Area at time of survey	40.81 acres
Natural pond area	40.81 acres
Maximum depth	69.0 feet

Crossman's Pond, Kingston

Area at time of survey	19.81 acres
Natural pond area	12.93 acres
Maximum depth	9.8 feet

Billings Pond or Lake Wolomolopoog, Sharon

Area at time of survey	14.78 acres
Natural pond area	14.78 acres
Maximum depth	19.8 feet

Access to Great Ponds

Petitions have been pending this year signed by ten or more citizens of the Commonwealth requesting the establishment of a right of way for public access to Three Mile Pond or Brush Hill Pond in the town of Sheffield, White Pond in the town of Chatham and White Pond in the town of Concord. Hearing upon these petitions has been delayed to allow surveys to be made of these ponds. The surveys are now completed and public hearing is to be held early in December.

PROVINCE LANDS

By Chapter 470 of the Acts of 1893 the Board of Harbor and Land Commissioners was given general care and supervision of an area containing about 3,810 acres known as the Province Lands at Provincetown. At that time the area was stripped of trees, denuded of vegetation and the loose sand carried by the wind was filling ponds and menacing the harbor.

The work of reclaiming these lands was begun in 1894 and has been carried on ever since under the direction of the Board of Harbor and Land Commissioners and the successors to its powers and duties. A superintendent at Provincetown is in immediate charge of the work.

At present the first method followed is to check the movement of sand by covering the dune with brush which provides enough protection for the natural re-seeding of the beach grass. This work is followed by the transplanting of shrubs of which bayberry has been found very valuable for holding the sand particularly along the slopes of the dunes. After this preparation is completed the transplanting of trees begins and the reforesting of the area. In this way about 1,200 acres of these lands have been reclaimed.

During the year the work has been continued in accordance with these methods. Brush secured by clearing dead trees and brush from old forested areas has been spread over five acres of sand dunes. Five hundred bayberry shrubs have been transplanted, 10,000 pitch pines taken from the nursery to the dunes and 15,000 native pitch pine seedlings removed from the forest to the nursery to increase their fibrous root growth before planting them upon the dunes. Seedling Scotch broom has been used for roadside planting and native seed of sand peas, sumach and broom has been sown broadcast over the dunes.

The destruction of gypsy moth egg clusters and brown tail moth nests has been continued during the year.

The dike at Race Run has been repaired, parking areas and roadsides kept in condition and an additional mile of combination fire stop and truck trail built with sand piles for fire protection.

The sum of \$102.50 has been paid into the State Treasury this year from licenses issued for cultivating and picking cranberries on the bogs, for mowing meadows, and from permits for occupying areas on these lands.

STATE BOUNDARY LINES

This year bound No. 42, Attleboro-Pawtucket "F" on the Massachusetts-Rhode Island State line, was moved westerly, and bound No. 43, Attleboro-Pawtucket "F" was moved easterly because of new highway construction.

For a similar reason bound No. 187 on the Connecticut-Massachusetts State line was moved 40.46' westerly.

TOWN BOUNDARY LINES

During the year a new bound was set on the Needham-Wellesley town line to take the place of Needham-Wellesley 1 witness mark removed because of highway construction.

The Brewster-Orleans town line was redetermined and bounds reset in conformity with Chapter 356 of the Acts of 1935.

CONSERVING AND EQUALIZING THE FLOW OF WATER
IN RIVERS AND STREAMS

By Chapter 359, Acts of 1909, Chapter 564, Acts of 1912, and Chapter 84, Resolves of 1917, co-operation was established between the Commonwealth and the Water Resources Branch of the United States Geological Survey, so that results of work relating to the gauging of streams within the Commonwealth and other work of a similar character carried on by said survey have been obtained for use by the Department and are avail-

able for other Departments of the Commonwealth. Toward the cost of this work the Department has paid during the year \$5,000.

RE-ESTABLISHMENT OF CERTAIN TRIANGULATION STATIONS

By section 33, Chapter 91 of the General Laws, the Department is authorized to make such surveys and to do such other work as may be required by any order of the Land Court, to re-establish and permanently mark certain triangulation points and stations previously established in connection with the topographical survey of the Commonwealth, and the town boundary survey, which have been lost or destroyed and to obtain the geographical position of such new points and stations as may be required from time to time by the Court.

During the year the appropriation for this purpose has been used in conjunction with WPA funds to re-determine and mark triangulation stations in the southeastern part of the State.

MARINE BORER INVESTIGATION

The Department has this year continued its co-operation with the New England Committee on Marine Piling investigation and has maintained test boards in tide water at various locations in the State to determine the extent of the activities of the marine worms.

Examinations have been made by engineers of the Department of all pile and timber structures in tide water in the cities of New Bedford and Fall River. The investigation showed considerable damage to many of these structures. Conditions at one wharf in New Bedford were so serious that repairs were ordered and the use of the pier curtailed until the work was completed. In a few instances wharves were found in such unsafe condition from the depredations of the marine borers that owners were no longer using the structures.

LICENSES AND PERMITS

During the year 83 licenses were granted for work to be done in tide waters, great ponds, Connecticut River and Merrimack River, and 126 permits for miscellaneous purposes. The Department also approved 104 permits granted by cities and towns for the construction and maintenance of fish weirs in tide water.

FEDERAL APPROPRIATIONS AND EXPENDITURES

Federal appropriations and expenditures for the improvement of rivers and harbors in Massachusetts from the establishment of the Government to the close of the fiscal year ending June 30, 1937, are shown in the following tables furnished by the Chief of Engineers, U. S. Army:—

TABLE NO. 1—*Localities at which work was done during Fiscal Year 1937*

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Newburyport Harbor	\$595,788.30	\$692,708.13
Gloucester Harbor and Annisquam River	593,147.44	593,147.44
Mystic River	812,213.00	816,684.84
Boston Harbor	15,806,123.51	15,834,058.72
Weymouth Fore River	865,403.23	904,650.00 ¹
Cape Cod Canal	29,542,790.33	30,319,202.51
Pollock Rip Shoals, Nantucket Sound	1,526,776.34	1,527,029.26
Chatham Harbor	31,571.36	31,571.36
Harbor of Refuge at Nantucket	773,965.53	773,965.53
Hyannis Harbor	224,450.36	224,450.36
Vineyard Haven Harbor	82,573.47	82,573.47
Total	\$50,854,802.87	\$51,800,041.62

¹ Exclusive of \$100,000 contributed funds.

TABLE NO. 2—*Localities at which work is not now in progress*

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Lynn Harbor	\$814,750.77	\$814,750.77
Plymouth Harbor	511,253.36	511,253.36 ¹
Cross Rip Shoals, Nantucket Sound	48,837.20	48,837.20
New Bedford and Fairhaven Harbors	1,812,385.05	1,812,385.05
Fall River Harbor	790,149.49	790,149.49
Taunton River	383,838.10	383,838.10
Merrimack River	404,466.72	404,466.72
Malden River	149,950.00	149,950.00 ²
Sandy Bay, Cape Ann, Harbor of Refuge	1,941,478.00	1,941,478.00
Bass River	20,150.41	20,150.41
Buzzards Bay Harbor (Weepecket Rock)	2,500.00	2,500.00
Canapitset Channel	9,112.54	9,112.54
Cohasset Harbor	10,000.00	10,000.00
Duxbury Harbor	37,000.00	37,000.00
Edgartown Harbor (Marthas Vineyard)	30,000.00	30,000.00
Essex River	30,000.00	30,000.00
Hingham Harbor	38,316.58	38,316.58
Ipswich River	5,617.91	5,617.91
Kingston Harbor	8,940.09	8,940.09
Little Harbor, Woods Hole	18,000.00	18,000.00
Manchester Harbor	23,985.57	23,985.57
Marblehead Harbor	584.00	584.00
Powow River	50,940.72	50,940.72
Rockport Harbor	91,229.25	91,229.25
Town River	37,577.41	37,577.41
Wareham Harbor	95,997.30	95,997.30
Wellfleet Harbor	11,365.57	11,365.57
Westport Harbor and River	3,000.00	3,000.00
Winthrop Harbor	9,000.00	9,000.00
Woods Hole Channel	343,599.92	343,599.92
Beverly Harbor	246,690.41	246,690.41 ³
Salem Harbor	107,956.57	107,956.57
Dorchester Bay and Neponset River	128,176.44	128,176.44
Weymouth Back River	27,000.00	27,000.00
Scituate Harbor	126,590.98	126,590.98
Provincetown Harbor	348,062.72	348,062.72
Total	\$8,718,503.08	\$8,718,503.08

¹ Exclusive of \$108,400 contributed funds.² Exclusive of \$ 62,000 contributed funds.³ Exclusive of \$100,000 contributed funds.*Recapitulation*

	<i>Expenditures</i>	<i>Appropriations</i>
Total of Table No. 1	\$50,854,802.87	\$51,800,041.62
Total of Table No. 2	8,718,503.08	8,718,503.08
Total	\$59,573,305.95	\$60,518,544.70

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
457	Commonwealth Pier 5, South Boston—reconstruction of platforms	Merritt-Chapman & Scott Corp.	Dec. 13, 1935
463	Commonwealth Pier 5, South Boston—reconstruction of platforms and pile protection at Head House	Bay State Dredging & Contracting Co.	July 14, 1936
465	Cotuit Harbor, East Bay, Lewis Bay, Barnstable—dredging	Bay State Dredging & Contracting Co.	July 1, 1936
467	Popponeset Bay, Barnstable, dredging channel and basin	Herbert T. Gerrish	July 21, 1936
468	Waquoit Bay, Falmouth—stone jetty	Frederick V. Lawrence	Oct. 27, 1936
470	Manchester Harbor—dredging	J. S. Packard Dredging Co.	Sept. 8, 1936
474			
475	Megansett Harbor, Falmouth—stone break-water	George M. Bryne	Sept. 8, 1936
476	Dennisport Shore—stone jetties	H. & J. Construction Co.	Sept. 22, 1936
477	South Yarmouth Beach—stone riprap	J. W. Nickerson	Oct. 6, 1936
478	Falmouth Shore protection—opposite Shore Street	Turner & Breivogel	Oct. 6, 1936
479	Roughan's Point, Revere—sea wall	M. F. Gaddis, Inc.	Nov. 17, 1936
480	Vineyard Haven Harbor, Tisbury—dredging	Bay State Dredging & Contracting Co.	Dec. 8, 1936
481	Sengekontacket Pond, Oak Bluffs—dredging channel, building jetties, and bridge.	Turner and Breivogel	Dec. 8, 1936
482	Harwichport—stone jetties	Frederick V. Lawrence	Nov. 17, 1936
483	West Chop, Tisbury—shore protection	Frederick V. Lawrence	Nov. 25, 1936
485	Gloucester Fish Pier—construction and dredging of approaches	Bay State Dredging & Contracting Co.	Apr. 6, 1937
486	Pemberton Point Sea Wall, Hull—repairs	Karl M. Fredrickson	Mar. 26, 1937
487	West Bay, Barnstable—dredging	Bay State Dredging & Contracting Co.	June 7, 1937
489	Lewis Bay, West Yarmouth—Dredging	Bay State Dredging & Contracting Co.	June 7, 1937

AND IN FORCE DURING THE YEAR ENDING NOVEMBER 30, 1937

Condition of Work	Contract Price
Completed May 26, 1937	Unit prices.
Completed March 1, 1937	For removing existing platform, including piling and other structures, including all incidental work, the lump sum of \$4500.
Completed May 6, 1937	Unit prices. For dredging and disposing of dredged material 81 cents per cubic yard, scow measurement.
Completed June 9, 1937	For removing and disposing of boulders \$20 per cubic yard For dredging and disposing of excavated material on marsh and flats by the hydraulic process, including the construction of the necessary dikes and sluices or other barriers, 52 cents for each cubic yard of material measured in place.
Completed March 9, 1937	For removing and disposing of all boulders \$20 for each cubic yard.
Completed Apr. 29, 1937	For each ton of heavy stone riprap and stone chips furnished in place in the completed work, \$3.24. For dredging and disposing of dredged material, 55 cents per cubic yard, scow measurement.
Completed Feb. 10, 1937	For removing and disposing of boulders \$20 per cubic yard.
Completed Jan. 8, 1937	For each ton of heavy stone riprap furnished in place in completed work, \$3.45 for each ton of 2,000 pounds.
Completed Jan. 6, 1937	For furnishing and placing granite stone riprap and chips in the jetties, including all incidental work, \$3.75 for each ton of 2,000 pounds.
Completed Dec. 9, 1936	For each ton of stone riprap and stone chips furnished and placed in completed work, \$2.99 for each ton of 2,000 pounds. For steel sheet piling furnished and driven in completed work, \$74.01 for each ton of steel sheet piling. For all reinforcing steel furnished and placed in concrete cap 7.8 cents for each pound. For furnishing material and constructing concrete cap, including all incidental work, \$17.29 for each cubic yard of concrete measured in place in the completed work.
Completed July 29, 1937	For furnishing and driving steel sheet piling \$80 for each ton in completed work. For furnishing materials for constructing concrete sea wall and stair wells including forms, tie rods, steel reinforcement, excavation and all incidental work, \$15 for each cubic yard of concrete measured in place in completed work. For furnishing and placing granite stone riprap and chips against sea side of sea wall, \$2.20 for each ton of 2,000 pounds in place in completed work. For furnishing materials for filling in place back of sea wall, including all incidental work, \$.60 for each cubic yard measured in place in completed work. For furnishing and setting each granite stone step in place, including all incidental work, \$18 for each step in place in completed work.
Completed Apr. 8, 1937	For dredging and disposing of dredged material 26.7 cents per cubic yard, scow measurement.
Completed July 24, 1937	For removing and disposing of boulders, \$20 per cubic yard. For material excavated in channel and disposed of within disposal areas, 45 cents per cubic yard. For removing and disposing of all boulders, \$3.50 per cubic yard. For each ton of heavy stone riprap and chips furnished in place in completed work, \$4.50 per ton. For constructing by-pass, including all materials, plant, equipment, lights, etc. \$285.
Completed Dec. 4, 1936	For building bridge and approaches—unit prices.
Completed Feb. 13, 1937	For furnishing and placing granite stone riprap and chips in the jetties, \$3.15 for each ton of 2,000 pounds.
In progress	For each ton of 2,000 pounds of stone riprap or chips furnished in place in the completed work, \$5.10. For removal and disposal of existing structures, the lump sum of \$9,500. For dredging and disposing of material outside site of work, 28 cents per cubic yard, scow measurement. For dredging and disposing of material in areas to be filled, 20 cents per cu. yd. scow measurement. For removing boulders, \$5 per cubic yard. For removing ledge, \$35 per cubic yard, place measurement. For building pier—unit prices.
Completed May 4, 1937	For furnishing all labor and materials and building concrete footing under and in front of existing wall, including all excavation, back filling and incidental work, \$12 for each cubic yard of concrete placed in completed work. For furnishing all labor, materials, tools and equipment and doing all work necessary to patch the existing sea wall and fill the construction joints, the lump sum of \$100. For each ton of new stone riprap or chips furnished in place in the completed work, \$1.44 per ton of 2,000 pounds. For rehandling existing riprap and replacing it within the new work, including all incidental expense, the lump sum of \$15.00.
Completed July 29, 1937	For dredging and disposing of dredged material, 65 cents per cubic yard, scow measurement.
Completed July 10, 1937	For removing and disposing of boulders, \$20 per cubic yard. For dredging and disposing of the dredged material 51 cents per cubic yard, scow measurement. For removing and disposing of boulders, \$20 per cubic yard.

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
490	Wollaston Dredging	J. S. Packard Dredging Co.	June 7, 1937
491	Dorchester Bay—dredging at Savin Hill Yacht Club	Bay State Dredging & Contracting Co.	June 7, 1937
492	Weymouth Fore River—Quincy and Weymouth—dredging	J. S. Packard Dredging Co.	June 7, 1937
493	East Bay, Barnstable—timber fence westerly of west jetty	Harry L. Jones	Oct. 27, 1937
494	Wellfleet Shore Protection—stone jetties	Louis A. Byrne	June 29, 1937
495	Gloucester Fish Pier—furnishing and installing equipment in the Stores Building and the Cold Storage Building	Frick Company	Aug. 3, 1937
496	Commonwealth Pier 5—fence in examination room	P. J. Dinn & Co.	July 13, 1937
498	Hyannis Harbor, Barnstable—dredging anchorage basin	Herbert T. Gerrish	July 14, 1937
499	Malden River—Dredging	Herbert T. Gerrish	July 13, 1937
500	Lobster Cove, Gloucester,—dredging	Bay State Dredging & Contracting Co.	July 14, 1937
501	Falmouth Heights & Menauhant Shore, Falmouth—stone jetties	Frederick V. Lawrence	July 14, 1937
502	Oak Bluffs—stone jetty near Nantucket Avenue	Turner & Breivogel	Aug. 3, 1937
503	Pilgrim Beach, Truro—stone jetties	Louis A. Byrne	Aug. 3, 1937
504	Katama Bay, Edgartown—excavation of channel	Turner & Breivogel	Aug. 3, 1937
505	Wild Harbor, Falmouth—dredging	Herbert T. Gerrish	Aug. 3, 1937
506	Brewster Shore—riprap	George M. Bryne	Aug. 25, 1937
507	Dennis Shore—stone jetties at Dennisport and Sesuit	George M. Bryne	Aug. 25, 1937
508	Harwich Shore—building stone jetty, repairing and extension of other jetties	Frederick V. Lawrence	Sept. 14, 1937
509	Gloucester Fish Pier—Stores building and Cold Storage building	H. L. Hauser Building Co., Inc.	Oct. 5, 1937
510	Barnstable—stone jetties at Squaw Island Road	Frederick V. Lawrence	Oct. 13, 1937
511	South Hyannis, Barnstable—stone jetty and riprap	George M. Bryne	Oct. 27, 1937
512	Malden River, Malden—dredging channel	North Atlantic Dredging Co.	Oct. 26, 1937
513	New Bedford State Pier—repairs to walls and windows	Maurice M. Devine, Inc.	Oct. 27, 1937
514	New Bedford State Pier—repairs to roof of steel shed.	John F. Shea Company, Inc.	Oct. 27, 1937
515	Witchmere Harbor and Herring River, Harwich—repairs to stone jetties	Louis A. Byrne	Oct. 27, 1937
516	Commonwealth Pier 5—resurfacing portions of floors	Warren Bros. Roads Co.	Nov. 2, 1937

AND IN FORCE DURING THE YEAR ENDING NOVEMBER 30, 1937

Condition of Work	Contract Price
Completed July 16, 1937	For dredging and disposing of dredged material 47 cents per cubic yard, scow measurement.
Completed July 3, 1937	For removing and disposing of boulders \$25 per cubic yard. For dredging and disposing of dredged material 45 cents per cubic yard, scow measurement.
Completed Aug. 30, 1937	For removing and disposing of boulders \$20 per cubic yard. For dredging and disposing of dredged material 58 cents per cubic yard, scow measurement.
In progress	For removing and disposing of boulders \$25 per cubic yard. For building timber fence 150 feet long, including all material, the furnishing of all plant, tools, labor and equipment and incidental work, the lump sum of \$494.76.
Completed Sept. 14, 1937	For furnishing and placing granite stone riprap and granite chips in the jetties, including all incidental work, \$3.37 for each ton of 2000 pounds in completed work.
In progress	For furnishing and installing in complete working order, in the Stores Building, and the Cold Storage Building at the Gloucester Fish Pier, the entire equipment required by specifications and plans, including all incidental work, the lump sum of \$207,186.00.
Completed Aug. 4, 1937	For furnishing all labor, materials, tools and equipment and performing all work necessary to construct and install complete a wire fabric fence in examination room, the lump sum of \$686.
Completed Nov. 30, 1937	For dredging and disposing of dredged material within disposal area or on marsh or flats by hydraulic process, including construction of necessary dikes and sluices or other barriers, 53 cents per cubic yard measured in place.
Completed Oct. 21, 1937	For removing and disposing of boulders, \$20 per cubic yard. For dredging and disposing of the dredged material on shore 44 cents per cubic yard measured in situ.
Completed Aug. 3, 1937	For removing and disposing of boulders \$20 per cubic yard. For dredging and disposing of dredged material 56 cents per cubic yard, scow measurement.
Completed Sept. 9, 1937	For removing and disposing of boulders \$20 per cubic yard.
Completed Sept. 20, 1937	For furnishing and placing granite stone riprap and chips in the jetties, \$3.24 for each ton of 2000 pounds.
Completed Sept. 21, 1937	For each ton of heavy stone riprap and stone chips furnished in place in completed work, \$4.95 for each ton of 2000 pounds.
Completed Aug. 30, 1937	For furnishing and placing granite stone riprap and granite chips in jetties, \$4.15 for each ton of 2000 pounds. For excavating channel, including disposition of all material, furnishing of all plant, tools, equipment and incidental work, the lump sum of \$1,745 for the completed work.
Completed Oct. 5, 1937	For dredging and disposing of excavated material on marsh or flats by hydraulic process, including construction of necessary dikes and sluices or other barriers, 70 cents per cubic yard of material measured in place.
Completed Oct. 12, 1937	For removing and disposing of boulders \$20 per cubic yard. For furnishing and placing heavy granite stone riprap and granite stone chips in the completed work, including all incidental work, \$3.08 for each ton of 2000 pounds.
Completed Nov. 6, 1937	For furnishing and placing heavy granite stone riprap and granite stone chips in the jetties, including all incidental work, \$3.08 for each ton of 2000 pounds.
Completed Nov. 9, 1937	For furnishing and placing granite stone riprap and chips in jetty, extension of two jetties and repairs to other jetties, \$3 for each ton of 2000 pounds.
In progress	For furnishing crane, operator, two men and all incidental work in rebuilding one jetty, \$7 for each hour for crane, operator and two men.
In progress	For furnishing materials and erecting complete in place the Stores Building above the piles and the Cold Storage Building above Elevation 8, with appurtenant structures and equipment, the lump sum of \$439,704; for excavation, foundations, steel concrete piles, etc., unit prices.
Completed Nov. 15, 1937	For furnishing and placing granite stone riprap and chips in jetties and returns, including all incidental work, \$2.70 for each ton of 2000 pounds in the completed work.
In progress	For each ton of 2000 pounds of granite stone riprap and granite stone chips placed in the completed work, \$2.47. For dredging and disposing of dredged material on shore 45 cents for each cubic yard measured in situ.
In progress	For removing and disposing of boulders \$20 for each cubic yard. For removing existing plaster and applying gunite, the lump sum of \$1,100.
In progress	For removing existing plaster and applying gunite to certain portions of wall as directed by Engineer, 40 cents per square foot of wall surface. For applying flash coat of gunite to other portions of wall, 30 cents per square foot of surface.
In progress	For removing five old window sash and furnishing and installing five new window sash, the lump sum of \$275.
In progress	For each square foot of 5-ply tar and gravel roofing furnished and placed, including all labor, materials and incidental work, 11 cents per square foot. For replacing old planks with new, including all labor, material and fastenings, 10 cents per square foot.
In progress	For each square foot of copper furnished and placed, 50 cents per square foot.
In progress	For furnishing and placing broken stone in the jetties, including all incidental work, \$3.70 for each ton of 2000 pounds in the completed work.
In progress	For each cubic yard of material excavated and back filled in the completed work, including all incidental work, 80 cents per cubic yard.
In progress	Unit prices.

INDEX

<i>General</i>	
Appropriations	7
Financial Statements	17
Expenditures	18
Summary of Income	17
General Activities of Department	1
Organization under Chapter 16, General Laws, as amended	1
Personnel	4
Recommendations for Legislation	6
Special Reports by Department of Public Works	5
<i>Relating to Highways</i>	
Advertising Signs and Devices within the Public View	84
Bond Issue, Chapter 464, Acts of 1935, Projects	45
Bridges	63
Alterations, Repairs and Extensions	66
Bridges to replace bridges destroyed by flood	39 & 63
Built or Contracted for	63
Contemplated Bridges and Structures	67
Examinations, Reports, Estimates, etc.	66
Maintenance of—See State Highways	52
Permanent Bridges across Connecticut River and Merrimack River	37
Deerfield-Sunderland	37
Gill-Montague	37
Hadley-Northampton	37
Lowell, Central Bridge and others	37
Slades Ferry Bridge	37
Contracts, signed during the year	23
Co-operative Work, Supervision of Certain Expenditures by Cities, Towns, and Counties	21
Emergency Public Works Construction	45
Expenditures, Summary for the Year	18
Farm-to-Market Roads	55
Federal Aid in Constructing Highways	57
Allotments to Massachusetts	58
Mileage	58
Statement of Road Projects	58
Federal Funds	58
Works Program Grade Crossing Abolitions	61
Works Program Highways	58
Gas Tax, transfer of proceeds under Chapter 431, Acts of 1936	16
General Statement as to Surveys, Plans, Estimates and Other Work during the year	21
Grade Crossing Abolitions	47
Hayden-Cartwright Act	46
Highway Fund	17
Highway Improvements authorized by Special Acts	25
Materials Testing Laboratory	56
Monson State Hospital, Driveway	38
Petitions, Meetings and Hearings	23
Public Ways, Exclusive of State Highways, in certain Towns	79
Allotments or Contributions by the State and Towns	79
Expenditures in Various Counties and Towns	83
Towns where work has been contracted for	79
State Highways	23
Construction	24
Contracts entered into for work in various Municipalities	24
Expenditures in Various Counties and Municipalities	24
Maintenance and Repair	48
Expenditures in various Counties and Municipalities	48
Ordinary and Special Maintenance	51
Maintenance and Operation of Draw Bridges	52
Fall River-Somerset,—over Taunton River	52
Newburyport-Salisbury,—over Merrimack River	52
New Bedford-Fairhaven,—over Acushnet River	52
Quincy-Weymouth,—over Weymouth Fore River	53
Petitions received during the year	23
Reconstruction and Repair of State Highways damaged by floods	36
Removal of Snow and Ice from State Highways	51
Resurfacing and Widening	21 & 56
Roadside Maintenance and Development, Nursery at Sudbury	53
Sidewalk Construction along State Highways	55
Town and County Ways (Chapter 90, General Laws)	69
Allotments or contributions by the State, Towns and Counties	69
Expenditures in various Counties and Towns	77
Towns where work has been contracted for	69
Type of Road and Length contracted for	69
City and Town bridges, damaged by flood, reconstructed or repaired	39
Works Program Highways and Grade Crossing Abolitions	61

Works Progress Administration	55
Sidewalk Construction	55
Farm-to-Market Roads	55
Roadside Beautification	53
Traffic on Highways	57
Signs, Direction, Route, Warning, etc.	57
Traffic Control Signals and Regulations	57
Uniform Traffic Signs, Lights, Markings, etc.	57

Relating to Registry of Motor Vehicles

Accident Prevention	85
Accident Report Letters	91
Aircraft	88
Analysis of Court Abstracts received	93
Branch Offices	86
Comparative Statement showing Ratio of Yearly Registrations to Death and Injuries; and Suspensions, etc.	91
Eastern Conference of Motor Vehicle Administrators	94
Examinations for licenses	86
Expenditures, Analysis of, for the Fiscal Year 1937	95
Head Lamps, Tail Lamps and Reflectors	90
Insurance, Compulsory, Motor Vehicle Liability	87
Investigations and Prosecutions by Inspectors	91
Motor Vehicle Deaths, Injuries, Collisions	90
Motor Vehicle Accidents to Persons	90
Types of Collisions	90
Number of Persons Killed and Injured	90
Motor Vehicle Equipment, Periodic Inspection of	88
Brakes, Lights and Miscellaneous	89
School Bus Inspections	89
Property Damage	87
Registrations, Licenses, Fees	86
Expenses of the Registry of Motor Vehicles	95
Court Fines received by the Treasurer and Receiver General	95
Motor Vehicle Fees Rebated	95
Passenger Cars, Commercial Vehicles and Motor Cycles	86
Receipts, Analysis of	95
Total Receipts, credited Highway Fund, 1936	95
Revocations and Suspensions	92
Safety Work, Publicity for	97
Used-Car Section	94
Motor Vehicle Identification	94
Engine and Serial Numbers	94
Motor Vehicles Stolen	94
Reports	94
Dealers	94

Relating to Waterways and Public Lands

Barnstable Dredging	103
Cotuit Harbor, East Bay and Lewis Bay	103
Hyannis Harbor	103
Popponesset Bay	103
West Bay	104
Barnstable Shore Protection	104
Cotuit	104
South Hyannis	104
West Beach—Squaw Island Road	104
Boston Harbor	97
Commonwealth Flats at East Boston	99
Aircraft Landing Field—Boston Airport	99
Commonwealth Pier 1	100
Reclamation of Flats	99
Commonwealth Flats at South Boston	97
Commonwealth Pier 5	97
Development of Land South of Summer Street	98
Railroad Yards of the Commonwealth	98
Anchorage Basin	100
Dorchester Bay	100
East Boston—Cunard Docks	100
Hayward's Creek	102
Inspection of Structures in Tide Water	102
Malden River	100
Marine Borers	102
Point Pemberton Sea Wall	101
Surveys	102
Weymouth Fore River	101
Wollaston Dredging	101
Brewster Shore Protection	104
Cape Cod Canal Landing Pier, Bourne	104
Connecticut River	105
Flood Control	105
Works Progress Administration Projects	105
Conserving and Equalizing the Flow of Water in Rivers and Streams	113
Contracts made and in force during year ending Nov. 30, 1937	116

Dennis Shore Protection	105
Dennisport	105
Sesuit	105
East Bay, Barnstable	105
Falmouth Shore Protection	105
Falmouth Heights	105
Menauhant	105
Shore Street	105
Federal Appropriations and Expenditures in Massachusetts Rivers and Harbors to	
June 30, 1937	114
Gloucester Fish Pier	106
Great Ponds	112
Access to:	
Crossman's Pond, Kingston	112
Billings Pond, or Lake Wolomolopoog, Sharon	112
White Pond, Concord	112
Three Mile Pond or Brush Hill Pond, Sheffield	112
Surveys	102
Harbor Cove, Gloucester	106
Harwich Shore Protection	106
Harwichport	106
South Shore	107
Herring River and Witchmere Harbor, Harwich	107
Income, Statement of	17
Katama Bay, Edgartown	107
Lagoon Pond, Oak Bluffs and Tisbury	107
Lake Anthony, Oak Bluffs	108
Lewis Bay, Yarmouth	108
Licenses and Permits	114
Lobster Cove, Gloucester	108
Manchester Harbor, Manchester	108
Marine Borers Investigation	114
Megansett Harbor, Falmouth	108
New Bedford State Pier	108
Oak Bluffs Shore Protection	109
Plymouth, Commonwealth Property	109
Provincetown Harbor, Provincetown	109
Province Lands	113
Provincetown Tercentenary Commission	110
Rivers, Harbors, Tide Waters and Foreshores outside of Boston Harbor	102
Roughan's Point, Revere	110
Scituate Shore Protection	110
Sengekontacket Pond, Oak Bluffs	110
State Boundary Lines	113
Town Boundary Lines	113
Triangulation Stations	114
Truro Shore Protection	110
Pilgrim Beach	110
Vineyard Haven Harbor, Tisbury	111
Waquoit Bay, Falmouth and Mashpee	111
Wellfleet Shore Protection	111
West Chop, Tisbury	111
Wild Harbor, Falmouth	111
Yarmouth Shore Protection	112

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